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ABSTRACT

The program planning guide for agricultural resources was written to assist Applied Biological and Agricultural Occupations (ABAO) teachers in enriching existing programs and/or to provide the basis for expansion of offerings to include additional materials for the cluster areas of forests, recreation, soil, wildlife, and other agricultural resources. Each guide includes the following components: an introduction (brief discussion of the subject matter); sample job titles and cluster areas (major job titles, D.O.T. numbers, O.E. numbers, and information about salaries, educational requirements, and career advancement opportunities); competencies for cluster areas and for job titles, stated as behavioral objectives; a core course outline (a representative sample of how a curriculum should be constructed, including references); sample teaching plans designed for one to five days in length (comprising cluster areas, unit titles, problem areas, a brief introduction, student performance objectives, a detailed outline of instructional content, learning activities, special materials and equipment, and student references). Also included are: specific and selected references; a brief description of school facilities; lists of equipment, supplies, and audiovisual materials; and a partial list of ways to increase teacher competencies. (BP)

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Volume VI

PROGRAM PLANNING GUIDE IN AGRICULTURAL RESOURCES

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Project Title

Development of Teachers' Guide and Students' Instructional Materials for Seven Selected Applied Biological and Agricultural Occupations Related Areas (PCB-A5-031)

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Carbondale, IL 62901

Date

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TABLE OF CONTENTS

General Introduction 1

Introduction to Agricultural Resources Program Planning Guide 7

Sample Cluster Areas and Job Titles 13

Sample Job Descriptions 14

Competencies for Cluster Areas 20

Competencies for Job Titles 28

Core Course Outline for Agricultural Resources 57

Exemplary Teaching Plans 69

References 106

Specific References 106

Selected References for More Information 112

School Facilities, Equipment and Supplies 114

Audio Visual Sources and Materials 115

Additional Audio Visual Sources and Materials 116

Teachers Competencies and Training Available 118

INTRODUCTION

The Program Planning Guides were written to assist the Applied Biological and Agricultural Occupations teacher in enriching the existing programs and/or to provide the basis for expansion of offerings to include an additional agricultural cluster area. For example, the current offering may be Agricultural Production with Agricultural Mechanics, and Agricultural Supplies and Services is to be added to the offering.

These guides are the result of a funded project coordinated by the Professional and Curriculum Development Unit, Division of Vocational and Technical Education, Board of Vocational Education and Rehabilitation in cooperation with the Agricultural Industries Department, Southern Illinois University, Carbondale, during the FY 1975. The project was entitled "Development of Teachers' Guide and Student Instructional Materials for Seven Selected ABAO (Applied Biological and Agricultural Occupations) Related Areas." The seven ABAO areas selected include:

1. Agricultural Production - O.E. Code 01.0100
2. Agricultural Supplies and Services - O.E. Code 01.0200
3. Agricultural Mechanics - O.E. Code 01.0300

4. Agricultural Products - O.E. Code 01.0400
5. Ornamental Horticulture - O.E. Code 01.0500
6. Agricultural Resources - O.E. Code 01.0600
7. Forestry - O.E. Code 01.0700

Major division, cluster area, and job titles were written with O.E. numbers, and only an occasional reference to D.O.T. The O.E. code was selected in that teachers in Illinois classify all of their students under this system.

The provisions of the SIU/C-DVTE project provided an opportunity for participation from throughout the Illinois Applied Biological and Agricultural Occupations staff. Each member contributed in his unique way, and they represent each of the four institutions which train DVTE staff, V.A.S., and ABAO teachers in community colleges and high schools.

The projects activities were coordinated by a Steering Committee. All major decisions on content, format, job titles, and final draft approval were the responsibility of the steering committee. They spent considerable time and effort in reviewing these guides. The steering committee was composed of the following members:

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Dr. Eugene Wood Professor and Chairman Agricultural Industries Department Southern Illinois University at Carbondale Carbondale, IL 62901	Agricultural Production Guide Author and Principal Investigator of Project

Each guide includes the following component parts.

Introduction Unique consideration for the subject matter area.

Sample Job Titles and Cluster Areas This includes information about salary, education requirements and career advancement opportunities. These job titles and cluster areas are coordinated with a brochure entitled "Applied Biological and Agricultural Occupations Career Directory" published by the Division of Vocational and Technical Education, 1035 Outer Park Drive, Springfield, IL.

Competencies for Cluster Areas and Competencies for Job Titles The competencies, stated in measurable terms, are presented by cluster areas and job titles.

Core Course Outline The core course outline is a representative sample of how a curriculum could be constructed to present the program.

Exemplary Teaching Plans This is a section which incorporates teaching plans for selected units in the outline. Their function is to provide sample plans which the ABAO teacher may follow in developing his respective units.

Reference The references are coded into the teaching plan and listed with their source in the reference section.

School Facilities, Equipment, and Supplies This provides the ABAO teacher with a source for major items which will be required to operate the program.

Audio Visual Materials This is a listing of currently available visual materials for use in teaching the respective subject matter areas.

Teachers Competencies and Training Available This is a brief review of sources where the teacher could secure additional skills to assist in delivering a quality program.

These Program Planning Guides were prepared to improve the quality and increase the scope of Applied Biological and Agricultural Occupations offerings available in Illinois. The Guides can only be successful with your review, adaption, adoption, and implementation.

INTRODUCTION TO THE AGRICULTURAL RESOURCES OCCUPATIONS PROGRAM PLANNING GUIDE

Before explaining the contents of this guide we should first develop a clear understanding of the term Agricultural Resources. Agricultural Resources is one of the seven areas of the Applied Biological and Agricultural Occupations. Agricultural Resources has been defined as:

> 01.0600 Agricultural Resources--A combination of subject matter and planned learning experiences concerned with the principles and processes involved in the conservation and/or improvement of natural resources such as air, forests, soil, water, fish, plants and wildlife for economic and recreational purposes. Instruction also emphasizes such factors as the establishment, management and operation of forest lands used for recreational purposes. Instruction may be in the classroom, field, shop and laboratory with the opportunity to be involved in cooperative education in related Agricultural Industries. Students should be provided the opportunity to become involved in relevant youth organization work.[1]

In order to prepare a student for an occupation in agricultural resources, several semester courses should be offered during the four year program. Courses at the ninth and tenth grade level should be concerned with basic orientation to introduce the student to the agricultural resources

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[1] State of Illinois Board of Vocational Education and Rehabilitation Division of Vocational and Technical Education, Suggested Guidelines for the Planning of Sequential Programs at the Secondary Level in Applied Biological and Agricultural Occupations, Springfield, IL, p.8, 1975.

occupations. However, this program planning guide is concerned with materials which can be used in program planning and teaching at the eleventh and twelfth grade level. It would be wise to note that all of the course offerings listed on the this page are not covered in this particular guide. Therefore, by referring to other guides written in connection with this project, courses in Agricultural Mechanic Skills or Nutrition and Feeds can be found and used to build a good program in Agricultural Resources. Suggested course offerings at the eleventh grade level are:

Agricultural Business Management
Agricultural Marketing
Agricultural Mechanic Skills
Conservation
Agricultural Machinery Maintenance
Soil and Water Management
Electrical Wiring and Controls
Game and Wildlife Management
Grounds Maintenance
Nutrition and Feeds[2]

Suggested course offerings at the twelfth grade level are:

Agricultural Business Management
Agricultural Marketing
Agricultural Mechanic Skills
Agricultural Technology
Camp Grounds Management
Game and Wildlife Management
Grounds Maintenance
Nutrition and Feeds
Soil and Water Management
Cooperative Education[3]

The Agricultural Resources Occupation's Program Planning Guide is indeed a quite interesting and unique guide. It has been written for Applied Biological and Agricultural Occupations's teachers to use as a guide in planning and teaching an agricultural environment and/or resources course.

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[2]Ibid, p.8.

[3]Ibid, p.8.

One reason for the uniqueness of this guide is that Agricultural Resources Occupations are relatively new. A different approach was used in order to identify and select job titles (and their competencies) which are employable in Illinois. The Dictionary of Occupational Titles did not hold much in store for this particular guide, due to the newness of positions such as Environmental Protection Technicians and Environmental Health Inspectors. In order to solve this problem the personnel departments of the Environmental Protection Agency, the Soil Conservation Service, the Department of Conservation, and the Department of Public Health were used to identify job titles (and their competencies), which are employable in Illinois. However, the Dictionary of Occupational Titles should not be neglected when trying to identify job titles which may be employable within your community. The Job Descriptions portion of the Agricultural Resources Occupation's Program Planning Guide, gives the job titles (with a brief description of their location, salary, education, and career advancement; as well as the O.E. number) which have been selected as being representative of the jobs available for high school graduates in agricultural resources. Jobs which are related to the Agricultural Resources Occupations selected in this guide can be found in the Dictionary of Occupational Titles. The author was not able to determine if these jobs are employable in Illinois, but in particular areas or communities throughout the state they may be. A representative list of the job titles which are agricultural

resources occupations, found in the Dictionary of Occupational Titles, are:

Spray Foreman
Foreman Tank House
Manager Production Seed Corn
Camp Tender
Water-and-Sewage Systems Foreman
Garbage-Collection Foreman
Incinerator Plant Attendant
Laborer Nursery
Tree Planter
Irrigator Sprinkling System
Water Shed Tender
Pound Net or Trap Foreman
Incinerator Foreman
Senior-Sewage Plant Operator
Water-Filter Cleaner
Sprayer Hand
Sewage Disposal Worker
Land Use Technician
Inspector Water Wells
Water Treatment Plant Operator
Sewage-Plant-Operator

Again, the jobs listed above may or may not be employable as such in Illinois. However, this problem is for each individual agriculture teacher to decide after assessing individual community needs.

The O.E. number used in the job descriptions was taken from Descriptions, Definitions and O.E. Coding, Vocational and Technical Education to aid the teacher in obtaining further information on what each job title entails.[4] By providing the O.E. number instructors will have first hand knowledge of where to go in order to give students better descriptions of each job title.

The General Competencies and the Competencies for Job Titles section lists specific competencies a student needs to know in order to become employed in agricultural resources occupations. The competencies are classified as E.E.

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[4]State of Illinois Board of Vocational Education and Rehabilitation, Division of Vocational and Technical Education, Descriptions, Definitions, and O.E. Coding, Vocational and Technical Education, Bulletin No. 5-1071.

(essential for job entry) or D.A. (desirable for career advancement).

Another reason for the uniqueness of this guide is the new innovative approach which was used in its development. This can be found in the core course outline. Traditionally, agricultural resources has been taught on a strictly awareness type of approach. This guide goes one step further. It uses an agricultural resources awareness and agricultural resources problem solving approach found in part E of the outline. The first section of the Agricultural Resources, Other Course Outline introduces the student to environmental and/or resource awareness, environmental and/or resource problems, and possible job opportunities. The rest of the outline deals with topics which should be covered in order for students to begin working on possible solutions to agricultural resources problems. Furthermore, these portions of the outline deal with topics students need, during high school, in order to become employed in agricultural resources occupations.

The competencies, the core course outline and the rest of the portions of this program planning guide are classed according to the cluster areas found in the Applied Biological and Agricultural Occupation's career directory. The cluster areas covered in this guide for agricultural resources are: A. forests, B. recreation, C. soil, D. wildlife, and E. agricultural resources, other (in this order). The water, air and fish clusters were not covered.

The Exemplary Teaching Plan section of this program planning guide includes sample teaching plans. These plans were included in this guide to serve as examples of how daily or weekly plans should be written.

The Specific References section includes references which were selected as being some of the best to pick from and use. The references are listed according to the cluster areas of the agricultural resources occupations. These references are also coded to the core course outline.

Selected References for More Information gives additional curriculum guides, units, or lessons. These references were included to provide even more information from which to draw

The Audio Visual Sources and Materials section in this guide gives a reference list of slidefilms and V.A.S. units. These V.A.S. materials are coded to the core course outline.

The Additional Audio Visual Sources and Reference Materials section gives the teacher listings of additional visual materials to possibly use. The source is given with the titles of these materials.

Finally, the last portion of this guide lists the Teachers Competencies and Training Available. By participating in workshops, reading or taking additional course work, one can become competent in teaching agricultural resources. Hopefully, by using this guide as well as the resources available and his imagination, the ABAO teacher will be able to develop an outstanding and dynamic Agricultural Resources program.

SAMPLE CLUSTER AREAS AND JOB TITLES

The cluster areas and job titles included in this guide are:

Forests

- Forestry Aide G.S.-3
- Forest Technician G.S.-4

Recreation

- Site Interpretive Specialist I
- Outdoor Recreation Worker
- Park Aide G.S.-3
- Park Technician G.S.-4
- Hunting and Fishing Guide

Soil

- Engineering Aide G.S.-2
- Soil Conservation Aide G.S.-2

Wildlife

- Conservation Police Officer Trainee

Agricultural Resources, Other

- Environmental Protection Technician I
- Environmental Health Inspector I

SAMPLE JOB DESCRIPTIONS

MAJOR JOB TITLE:	Forestry Aide G.S.-3 and/or Forest Technician G.S.-4
D.O.T. NUMBER:	441.384
O.E. NUMBER:	01.0601
LOCATION:	Working within the Department of Conservation in the Division of Forestry, U.S. Forest Service, Soil Conservation Service, private industries.
SALARY:	Aide - $6,764.00; Technician - $7,576.00 per annum. $3.38/hr. - Aide; $3.79/hr. - Technician.
EDUCATION:	Some training beyond high school is generally required for employment by federal agencies of the state. Candidates for Aide positions must have at least one-half year of general experience for the G.S.-2 grade. The Forestry Aid position in Illinois begins with the G.S.-3 rating. One year of general experience is required for the G.S.-3 grade. Candidates for technical positions must have a minimum of one and one half years of general education or experience and six months of specialized experience terminating in a total of two years. It is generally assumed that most candidates will have a high school education.
CAREER ADVANCEMENT:	Forest Technician G.S.-4. The Technician can advance up through the G.S. scale to a G.S.-7 or $9,520.00 per annum.

MAJOR JOB TITLE:	Site Interpretive Specialist I
O.E. NUMBER:	01.0699
LOCATION:	Department of Conservation
SALARY:	I - $546.00-$711.00, II - $602.00-$794.00, III - $702.00-$940.00 monthly. I - $3.41-$4.44, II - $3.76-$4.96, III - $438-$5.87 per hour.

EDUCATION:	Requires a working knowledge of Illinois history and ability to apply interpretive skills and techniques through on the job training. Site Interpretive Specialist II requires one year experience in Site Interpretive Programs as might be acquired at a municipal, county, state, or federal park or memorial system. Site Interpretive Specialist III requires either two years experience in Site Interpretive programs or one year supervisory experience.
CAREER ADVANCEMENT:	Specialist I, Specialist II, Site Interpretive Specialist III, Managerial Positions
MAJOR JOB TITLE:	Outdoor Recreation Worker
O.E. NUMBER:	01.0602
LOCATION:	Government recreation departments employed about 55,000 of the people in outdoor recreation in 1972. Camps, resorts, organizations, day camps, campgrounds employ many people, particularly seasonal employees.
SALARY:	Generally most employees range in the G.S.-4 or G.S.-5 rating, with an annual salary of from $6,882.00 to $7,694.00. Employment with the private organizations depends upon the prevailing wage rate in the local area. $3.44-$3.84 per hour.
EDUCATION:	A high school education is generally the minimum requirement for recreation leaders and camp counselor jobs. However, an associate degree in recreation or a related subject from a community or two-year college is usually preferred for year round employment.
CAREER ADVANCEMENT:	Employment for recreational work is expected to increase very rapidly through the mid-1980's. Advancement will depend upon initiative, academic record and leadership skills. Generally, administrative positions require experience, plus higher education.

MAJOR JOB TITLE:	Park Aide G.S.-3 and/or Park Technician G.S.-4
D.O.T. NUMBER:	441.382
O.E. NUMBER:	01.0602
LOCATION:	U.S. Forest Agencies, State Parks, Historic and Recreation areas, and private enterprises.
SALARY:	Aide - $4,621.00-$5,212.00; Technician - $9,420.00 annually; $2.31-$2.66 - Aide, $4.71 - Technician hourly. Park Aides should have a diploma from an accredited high school to qualify for the position. From one-half to one year of experience in a park or similar position is necessary to enter the U.S. Forest Service. State forest agencies, parks, historic sites and recreation areas secure their applicants from the State Civil Service Registry. Private agencies and individuals usually secure their employees from local areas. In addition, Park Technicians must have two years of experience in a park or similar situation or two years of college level work in park or closely related to park work. State Forest and Conservation Departments secure their applicants from the State Civil Service Registry. Private enterprises usually secure their employees from local areas.
CAREER ADVANCEMENT:	Federal agencies will advance their aides and technicians to G.S.-7. Little information is available about the advancement of employees within the State Civil Service Registry. The advancement of technicians depends upon their initiative and work. Private agencies generally advance their employees up through a success ladder to manager or co-owner situation.
MAJOR JOB TITLE:	Hunting and Fishing Guide
D.O.T. NUMBER:	452.868
O.E. NUMBER:	01.0604
LOCATION:	Fish and wildlife service, Forest service, The National Park Service, private individuals

SALARY:	Open - the salary a guide earns will depend upon whether it is a seasonal job, a full time job, or self-employed.
EDUCATION:	No formal education is required. However, many states require a written examination before a guide can operate in that state. In Illinois, a license is required from the Department of Conservation.
CAREER ADVANCEMENT:	A self-employed guide may advance to an outfitter or to full time employment by a municipality.
MAJOR JOB TITLE:	Engineering Aide G.S.-2
O.E. NUMBER:	01.0603
LOCATION:	May be self-employed in a private surveying business or employed by the United States Department of Agriculture's Soil Conservation Service or employed by the Army Corp of Engineers.
SALARY:	Private surveyors with experience make up to $14,000 a year. S.C.S. employees, G.S.-2 level begin at $5,996 a year with no experience. $2.45-$7.00 per hour.
EDUCATION:	High school diploma or possession of a General Educational Development High School Equivalency Certificate is required. Prospective employees must also pass the government service written test.
CAREER ADVANCEMENT:	Engineering Aide G.S.-3 and 4, Soil Conservationist
MAJOR JOB TITLE:	Soil Conservation Aide G.S.-2
O.E. NUMBER:	01.0603
LOCATION:	May be employed by the Army Corp of Engineers or the United States Department of Agriculture's Soil Conservation Service

SALARY:	S.C.S. employee, G.S.-2 level, begins at $5,996 a year with no experience. $2.45 per hour.
EDUCATION:	High school diploma or possession of a General Educational Development High School Equivalency Certificate. Prospective employees must then pass the government service written test.
CAREER ADVANCEMENT:	Soil Conservation Aide G.S.-3 and 4, Soil Conservationist
MAJOR JOB TITLE:	Conservation Police Officer Trainee
O.E. NUMBER:	01.0699
LOCATION:	Department of Conservation, other state or local agencies
SALARY:	Trainee - $666.00-$886.00; Officer - $744.00-$997.00; Sergeant - $839.00-$1,130.00; Lieutenant - $945.00-$1,277.00 monthly. Trainee - $4.16-$5.53; Officer - $4.65-$6.23; Sergeant-$5.24-$7.06; Lieutenant - $5.90-$7.97 per hour.
EDUCATION:	A high school education or G.E.D. certificate is required to be hired for these positions by the Illinois Department of Conservation. A minimum age of 21 is necessary for entry to the position of Trainee. The position of Sergeant requires two years experience in the enforcement of Conservation laws, as does the position of Lieutenant.
CAREER ADVANCEMENT:	The trainee may advance to Officer, Sergeant, and Lieutenant. Other positions would be available to the person who wishes to improve his qualifications by furthering his education or gaining additional experience.

MAJOR JOB TITLE:	Environmental Protection Technician I
O.E. NUMBER:	01.0699
LOCATION:	Employed by the Environmental Protection Agency, assisting higher level technicians and environmental protection associates and specialists.
SALARY:	Beginning salary with no experience ranges from $8,196 to $9,024 a year or $4.50-$4.90 per hour.
EDUCATION:	Requires knowledge, skill, and mental development equivalent to four years of high school. Prospective employees must then pass the government service written test.
CAREER ADVANCEMENT:	Environmental Protection Technician II; Associate; Specialist I, II, III, IV, V, VI; Manager

MAJOR JOB TITLE:	Environmental Health Inspector I
O.E. NUMBER:	01.0699
LOCATION:	Employed within the Department of Public Health, assisting higher level personnel.
SALARY:	Beginning salary with no experience is $8,196 a year or $4.50 per hour.
EDUCATION:	Requires high school diploma with special emphasis on courses in mathematics, biology, chemistry, and physics. Courses in Applied Biological and Agricultural Occupations would be helpful. Prospective employees must then pass the government service written test.
CAREER ADVANCEMENT:	Environmental Health Inspector II, Environmental Health Inspector III

VI. Agricultural Resources

A. Forests

1. Care and management of the forest

The student will be able to:

EE a. When given information about the forest, apply regeneration techniques that are necessary for the continuous growth of trees.

EE b. From available information, plan the recreational practices of a given area, consistent with the proper care of the land necessary for the enjoyment of the people.

EE c. When given a set of conditions describing a forest fire, plan the procedures and methods to bring the fire under control.

EE d. From a plan, describe a fully mature unevenged forest plan harvesting program, consistent with the standard procedures of the region.

EE e. When presented with a set of plans describing the procedures and techniques, establish on paper a wildlife habitat program including plots and waterholes.

B. Recreation

1. Performing interpretive demonstrations

The student will be able to:

EE a. When given adequate instruction in performing interpretive demonstrations,

KEY: EE-ESSENTIAL for ENTRY
DA-DESIRABLE for ADVANCEMENT

lead and escort visitors, and formulate and develop interpretive programs for a small park.

EE b. When given adequate instruction, supervise and direct interpretive programs at a large or prominent state memorial.

EE c. When given information, keep adequate records and reports of the recreational enterprise.

2. Outdoor recreation activities

The student will be able to:

EE a. When presented with the proper information, lead, direct, and promote recreational activities.

EE b. By studying the needs of a park, identify, inventory, and plan the immediate and long range recreation activities.

EE c. When given several alternatives, identify and plan the financial backing needed for a recreation facility.

EE d. When given the procedures and methods of painting and repairing, keep the buildings of a recreational area repaired.

EE e. From suggestions found in state bulletins, list the procedures you would do to properly care for the lawns, flowers, shrubs, and trees of a recreational area.

3. Care and management of parks

The student will be able to:

EE a. After studying outdoor recreation, make the necessary preparations for opening a park for public use.

EE b. After studying outdoor recreation, list and describe the equipment, buildings, and recreation items that need annual repair.

EE c. By using state and federal bulletins, describe the care of lawns, flowers, shrubs, and trees.

4. The practices of hunting and fishing guides

The student will be able to:

EE a. When given laws and regulations of the state, list the ones that are applicable to your area.

EE b. When presented with information relative to wildlife, identify the native fauna of the area and be able to describe each.

EE c. When presented with information about wildlife habitats, list the best habitat for indigenous wildlife.

EE d. Describe the procedures involved in promoting, organizing, and conducting a hunting and fishing expedition.

EE e. Identify the safety rules of good hunting and give first aid to needy persons.

EE f. By using state bulletins describe how to skin, dress, and preserve fish and game.

C. Soil

1. Introduction and personal qualities

EE a. In order to become employed in Agricultural resources occupations, the student must have developed a personality which allows him to communicate with people freely, according to job specifications published by the State of Illinois governmental agencies' personnel departments.

EE b. In order to work for any state agency in agricultural resources, the student must be able to drive a vehicle, according to job specifications published by the State of Illinois governmental agencies' personnel departments.

EE c. In order to work for any state agency in agricultural resources occupations, the student must be in good physical condition, according to job specifications published by the State of Illinois governmental agencies' personnel departments.

EE d. In order to work in agricultural resources occupations, the student must be familiar with environmental problems and solutions, according to job specifications of the state governmental agencies' personnel departments.

EE e. In order to work in agricultural resources occupations, the student must be able to describe the workings of the state governmental agencies, according to the work done by the Soil Conservation Service, the Department of Public Health, and the Environmental Protection Agency.

EE f. In order to go to work in agricultural resources occupations, the student will be able to demonstrate by example the necessary steps to follow in order to obtain and hold a job, according to the necessary steps described in the teaching plan on Applying for a Job.

2. General agricultural production and conservation practices

DA a. Given training in conservation planning, the student will be able to solve problems concerning land use planning, according to Soil Conservation Service requirements.

DA b. Given training in agricultural production, the student will be able to recommend proper methods and practices of planting and strip cropping, according to Soil Conservation Service specifications.

EE c. Given training in agricultural production, the student will be able to understand the operation of general agricultural production equipment, according to Soil Conservation Service specifications.

EE d. Given training in agricultural production, the student will be able to describe the proper steps to consider in proper seedbed preparation and weed control, according to Soil Conservation Service specifications.

3. Engineering instruments and practices

DA a. Given a set of surveying instruments, the student will be able to recognize malfunction of the surveying instruments, according to S.C.S. specifications.

EE b. Given a set of surveying instruments, the student will be able to set up and operate the instruments, according to S.C.S. specifications.

DA c. Given a surveying job, the student will be able to do all of the tasks involved with that job, according to S.C.S. specifications.

4. Conservation practices

DA a. Given training in conservation practices, the student will be able to demonstrate the knowledge and skills needed in dealing with conservation problems, planning and practices, according to S.C.S. specifications.

EE b. Given training in conservation practices, the student will be able to identify common vegetation materials used for conservation of our resources, according to S.C.S. specifications.

D. Wildlife

1. Conservation police officer trainee

The student will be able to:

EE a. By studying the various animals indigenous to the region, investigate game conditions and enforce the laws associated with it in a given region.

EE b. Following rules and regulations distributed by the state, direct the fish, wildlife, and forests programs with a given area.

EE c. By following and interpreting the laws of the state, inspect, enforce, and regulate pleasure boats.

E. Agricultural Resources, Other

1. Introduction and personal qualities

EE a. Upon completion of training in physical and/or life sciences, the employee will be able to express a familiarity of the physical and/or life sciences, according to E.P.A. job specifications.

EE b. In order to work for the E.P.A. and the Department of Public Health, the student must have developed the ability to establish and maintain good public relations and working relationships with other employees and the general public, according to their job specifications.

EE c. In order to work for the E.P.A. and the Department of Public Health, the student must be willing to perform other duties as assigned or required, according to their job specifications.

EE d. In order to work for the E.P.A. and the Department of Public Health, the student must possess a valid Illinois drivers license, according to E.P.A. job specifications.

EE e. In order to work for the E.P.A. and the Department of Public Health, the student must have the ability to follow oral and written instructions, according to their job specifications.

EE f. After receiving training in attending training meetings, the student must have developed the ability to attend training sessions and meetings as assigned or required, according to E.P.A. and the Department of Public Health job specifications.

EE g. In order to work in the E.P.A. or the Department of Public Health, the student must be familiar with the environment; its pollution and possible solutions, according to their job specifications.

EE h. Before studying further in an agricultural resources occupation's program, the

student will be able to describe the job opportunities available in the E.P.A. and the Department of Public Health, according to the jobs listed with their descriptions in this guide.

EE i. Before studying further in an agricultural resources occupation's program, the student will be able to fill out a job application, according to the specifications found in an actual application form.

2. Applicable laws

EE a. Upon completion of training in agricultural resources, the student will be able to express a knowledge of state laws, rules, and regulations as related to environmental protection, according to E.P.A. and the Department of Public Health job specifications.

DA b. After receiving training in agricultural resources, the student will be able to inform facility owners and operators of basic sanitation methods and corrections required to comply with pertinent laws, according to the Department of Public Health job specifications.

DA c. After becoming familiar with state laws, rules and regulations, the student will be able to explain state laws, rules and regulations to facility owners and operators and their employees, according to public health standards.

DA d. After becoming familiar with corrections required to assure compliance with applicable laws, the student will be able to advise operators of improvements or corrections required to assure compliance with applicable laws, according to public health job specifications.

3. Records and reports

EE a. After completion of courses in agricultural resources, the student will be able to maintain records and activity reports, according to E.P.A. and the

Department of Public Health job specifications.

4. Investigation procedures and practices

EE a. After receiving training in an agricultural resources course, the student will be able to collect necessary samples for E.P.A. inspections, according to E.P.A. job specifications.

EE b. After completing training in an agricultural resources course, the student will be able to participate in the collection of data to be used for the determination of variance petitions, according to E.P.A. job specifications. Variance petitions--are petitions drawn up to decide if a particular business has to comply with the law or not.

EE c. After completing training in an agricultural resources course, the student will be able to participate in investigative activities collecting field data to be used by E.P.A. and the Department of Public Health specialists, according to E.P.A. and Public Health job specifications.

EE d. After completing training in an agricultural resources course, the student will be able to operate and maintain equipment needed for investigative procedures, according to E.P.A. and Public Health job specifications.

DA e. After receiving training in sanitation practices and principles, the student will be able to instruct and make recommendations on good sanitation practices and principles, according to public health standards.

VI. Agricultural Resources

A. Forest

Forestry Aide and/or Technician

1. Care and maintenance of the forest

EE a. After receiving instruction in tree identification, the student will be able to correctly identify twenty-five commercial and twenty-five non-commercial trees.

EE b. After receiving instruction in surveying, the student will be able to measure and record distances, run compass lines, measure tree species, and identify topographic features.

EE c. When given a stand of timber, the student will be able to correctly establish 1/5 plots.

EE d. Given a recreation area, the student will be able to plan a summer program for a camp.

EE e. When presented with a group of visitors, the student will be able to correctly answer routine questions.

EE f. By use of demonstration, the student will be able to locate a forest fire by using a forest service technology.

EE g. Using a simulated fire in a district, the student will be able to plan the control program for the fire.

EE h. Lay out a plan on paper to mop up the fire after it is brought under control.

EE i. Using a timber plot that is ready for harvest, the student will be able to lay out a complete harvesting operation.

KEY: EE-ESSENTIAL for ENTRY
DA-DESIRABLE for ADVANCEMENT

EE j. After examining a timber sales contract carefully, the student will be able to write one for a given stand of trees.

EE k. After receiving instruction in an Applied Biological & Agricultural Occupations program, the student will be able to identify the job of a crew leader during maintenance and other work on recreational projects.

EE l. Following instructions provided, the student will be able to inspect recreation areas to insure cleanliness and proper maintenance of the recreational area.

EE m. After having completed a course in safety, the student will be able to plan a safety program for a recreational facility.

EE n. After having completed a program in hiking and trail building, the student will be able to inspect the conditions on a trail and report the existing conditions.

EE o. After studying the rules and regulations, the student will be able to visit a park and check compliance with the rules and regulations relating to camping, picnicking, campfires, etc., to insure proper use.

EE p. After studying plans and construction for a recreational facility, the student will be able to design on paper a facility with improvements and feasibility for expansion.

EE q. After having studied fire control, the student should be able to:

(1) Serve as a crew member in various fire control assignments such as fire prevention, trash disposal, prescribed burning and attack.

(2) Serve as a lookout on stations and locate fires, report fires to dispatchers, and take weather measurements.

(3) Investigate the cause of fires, collect evidence for trespassers, and gather information needed for fire reports. May act as crew boss for fire fighting crews, and accurately fill out crew time sheets.

(4) Serve as fire District Dispatcher as assigned.

(5) Conduct safety lessons and be responsible for others in fire control.

(6) Make sure that all subordinates wear proper protective equipment and perform all activities in a safe and proper manner.

EE r. The student will be able to hold safety sessions when job conditions warrant and when required by the Safety Handbook.

EE s. After having received instruction in mechanics, the student will be able to inspect vehicles and initiate action to make necessary maintenance and repairs on vehicles.

EE t. After having completed a course in surveying, the student will be able to perform land line location and corner restoration work project where location of lines and corners are necessary.

EE u. After receiving instruction in Timber Stand Improvement, the student will plan a TSI project of planting, thinning and pruning of a stand of uneven-aged forests.

EE v. After studying grades of hardwoods, the student will select, mark, grade, and measure volumes of hardwood, sawtimber and pulpwood trees according to regional guides and policies.

EE w. Given a stack of hardwood lumber, the student will determine the grade to within allowable grades as established by hardwood guides.

EE x. After studying wildlife management, the student will be able to serve as a work supervisor on a 1-5 man crew, performing duties that include mulching, seeding, fertilizing, and designing of waterholes, openings and access trails.

EE y. After receiving instruction in wildlife management, the student will be able to seed, mulch, and fertilize waterholes.

B. Recreation

Site Interpretive Specialist I

1. Performing interpretive demonstrations

EE a. By studying the procedures of interpretive work, the student will be able to present demonstrations to the public.

EE b. After observing an interpretive at work, the student will be able to escort guests, visitors, and groups through a memorial or park.

EE c. After studying the data collected by an interpretive, the student will be able to prepare data for research relative to site resources, craft, and art.

EE d. When given a site location, the student will be able to perform the general custodial, security, and record keeping of the location.

EE e. By studying the interpretive methods presented by an instructor, the student will be able to direct and supervise the interpretive program services at a small state memorial site or for supportive functions, which complement professional interpreters responsible for the interpretive programs at a state park.

EE f. When given the materials for preparation of a presentation, the student will be able to assist in the formulation and development of interpretive program services, for presentation to site visitors, guests, and groups.

EE g. After having completed a course in record keeping, the student will be able to prepare and maintain routine records and progress reports of a recreational enterprise.

EE h. After having completed a course in record keeping, the student will be able to prepare comprehensive progress reports on assigned projects.

EE i. Having completed a program in Outdoor Recreation, the student will be able to direct and supervise the interpretive program services at a prominent state memorial that has a large annual attendance record and/or offers a variety of interpretive programs to the public or performs difficult and highly skilled supportive functions that complement professional interpreters responsible for interpretive programs at a state park.

Outdoor Recreation Worker

EE a. By studying outdoor recreation, the student will be able to direct and lead people participating in indoor and outdoor recreation.

EE b. Using information presented and studying outdoor recreation facilities, the student will be able to instruct others in the proper use of such facilities.

EE c. Referring to rules and regulations, the student will be able to instruct others in the proper use of facilities.

EE d. When presented with information concerning the proper care and use of facilities, the student will be able to safeguard the well-being of campers and hikers.

EE e. By studying the laws relative to the operation of a recreational facility the student will be able to apply pertinent laws to an existing recreation facility.

EE f. By studying in youth organizations, the student will be able to develop a public relations program for a specific recreation enterprise.

EE g. After receiving instruction in outdoor recreation, the student will be able to lead and direct others in team sports.

EE h. After receiving instruction in outdoor recreation, the student will be able to provide instruction in native arts and crafts.

EE i. Given instruction in outdoor recreation, the student will be able to lead and instruct campers in nature-oriented forms of recreation.

EE j. After completion of a course in record keeping, the student will be able to make a budget of a recreational enterprise and design a long-range development of a given area.

EE k. By studying resources management, the student will be able to identify and list the natural resources on a given site.

EE l. After securing government periodicals and material and documents, the student will be able to identify government and private financial assistance programs that are available to outdoor recreational enterprises.

EE m. After completing a course in record keeping, the student will be able to determine the present and potential gross and net returns from an outdoor recreation enterprise.

EE n. After studying record keeping, the student will be able to inventory the outdoor recreation and the resources of the area.

EE o. After completing a course in record keeping, the student will be able to keep accurate records of a recreational enterprise.

Park Aide and/or Technician

EE a. After studying park management, the student will be able to learn laws and roads and prepare for the opening of a camping enterprise.

EE b. By studying carpentry, the student will be able to make repairs to buildings.

EE c. Following written instructions, the student will be able to drain water lines and repair toilet facilities.

EE d. After completing courses in Outdoor Recreation, the student will be able to repair and reinstall playground equipment and put athletic fields in shape.

EE e. By following instructions, the student will be able to put grass cutting equipment in shape and paint and repair buildings.

EE f. After completing a course in Outdoor Recreation, the student will be able to maintain winter recreational facilities.

EE g. After completing a course in Outdoor Recreation, the student will be able to operate and repair athletic field and beach lighting equipment.

EE h. After completing a course in water treatment, the student will be able to maintain and operate water treatment plants, wells, swimming pools, and chlorine systems.

EE i. Upon completion of a course in Applied Biological Agricultural Occupations, the student will be able to plant, and care for flowers, shrubs, and trees.

Hunting and Fishing Guide

EE a. After obtaining sufficient experience, the student will be able to plan, organize, and lead a hunting or fishing expedition.

EE b. After completing a course in machinery repair and upkeep, the student will be able to operate a motor vehicle and transport clients to and from hunting and fishing areas.

EE c. After completing a course in Outdoor Recreation, the student will be able to select good hunting sites, make camp and prepare game.

EE d. By studying state and federal hunting and fishing regulations, the student will become familiar with them and can advise others of their content.

EE e. After completing a course in psychology, the student will be able to communicate with hunters and fishermen effectively.

EE f. After completing a course in boating and boating safety, the student will be able to advise others on navigational methods and boat safety.

EE g. By completing a course in first aid, the student will be able to provide for the well-being and safety of campers and their animals, and administer first aid to the ill and injured sportsmen.

EE h. By completing a course in gun safety, the student will be able to recommend suitable and proper firearms, their proper use and safety.

EE i. By completing a course in gun safety, the student will be able to practice hunter safety and can advise others concerning hunting game.

EE j. After a student has completed a course in outdoor recreation he will be able to clean, skin, and dress fish and game.

C. Soil

Soil Conservation Aide G.S.-2

1. Introduction and personal qualities

EE a. In order to become employed by the Soil Conservation Service, the student must have a personality which allows him to communicate with people freely, according to S.C.S. job specifications. This can be accomplished by encouraging students to participate in the FFA public speaking contest, speech debates, group discussions and the FFA parliamentary procedure contest.

EE b. In order to become employed by the Soil Conservation Service, the student must be able to work with rural and urban people, according to S.C.S. specifications.

EE c. In order to work for the S.C.S., an employee must possess a valid drivers license, which meets the requirements set forth by the State of Illinois.

EE d. In order to work for the Soil Conservation Service, the employee must perform other duties as assigned or required, according to their requirements and specifications.

EE e. In order to work for the Soil Conservation Service, the student must be in gocd physical condition, according to S.C.S. specifications.

EE f. In order to work in agricultural resources occupations, the student must be familiar with environmental problems found in his community.

EE g. In order to work in agricultural resources occupations, the student must be familiar with the governmental agencies which aid the public in their fight against pollution, according to the agencies found within the State of Illinois.

EE h. Before studying in an agricultural resources occupation's program, the student will be able to describe the job opportunities in the Soil Conservation Service, according to the jobs listed with their descriptions in part I of this guide.

EE i. Before studying further in an agricultural resources occupation's program, the student will be able to fill out a job application, according to the specifications found in actual applications.

2. General agricultural production and conservation practices

DA a. After completion of training in land use planning, the student will be able to suggest alternative land treatments, according to S.C.S. requirements.

DA b. After completion of training in land use planning, the student will be able to develop alternative land treatment plans, according to S.C.S. requirements.

DA c. After completing training in agricultural production, the student will be able to recommend strip cropping practices, according to the proper strip cropping practices used in your area.

DA d. After completing training in agricultural production, the student will be able to recommend planting operations, according to the proper planting operations for your area.

EE e. After completion of training in agricultural production, the student will be able to understand the operation of tillage equipment, according to safe and correct operating procedures.

EE f. After completion of training in agricultural production, the student will be able to understand the operation of planting equipment, according to safe and correct operating procedures.

EE g. After completion of training in agricultural production, the student will be able to understand the operation of harvesting equipment, according to safe and correct operating procedures.

EE h. After completing training in agricultural production, the student will be able to prepare seedbeds, according to safe and correct procedures.

EE i. Upon completion of training in crop production, the student will be able to understand weed control measures, according to accepted weed control measures.

DA j. After completing training in agricultural production, the student will be able to recommend crop rotation practices.

EE k. After completion of training in agricultural production, the student will be able to classify land according to its capability to produce.

3. Engineering instruments and practices

DA a. Using a set of surveying instruments which would include a rod, rangepole, tripod, hand sighting level, steel tape, and marking stakes, the student will be able to recognize the malfunction of these surveying instruments, according to the standard manner accepted by the S.C.S.

DA b. While in the field surveying a site where a terrace, grass waterway or pond is to be constructed, the student will be able to prepare sketches, according to S.C.S. specifications.

DA c. Upon being questioned about survey data, the student will be able to verify the accuracy of survey data, according to S.C.S. specifications.

4. Conservation practices

EE a. Upon completion of instruction in conservation practices, the student will be able to demonstrate by example knowledge of contouring, according to S.C.S. specifications.

EE b. After receiving instruction in contouring, the student will be able to describe the purpose of contouring to Illinois agriculturalist, according to the purposes described by the Soil Conservation Service.

EE b. After receiving instruction in contouring, the student will be able to describe the purpose of contouring to Illinois agriculturalists, according to the purposes described by the Soil Conservation Service.

EE d. After completing training in contouring, the student will be able to describe the place of contouring, as outlined by the S.C.S.

EE e. After receiving instruction in contouring, the student will be able to describe some of the factors which need to be considered when laying out contours, according to the S.C.S. specifications.

EE f. Upon completion of training in conservation practices, the student will be able to demonstrate a knowledge of terracing, which fulfills the requirements of the S.C.S.

EE g. After completing training in terracing, the student will be able to explain the following terms: terrace, graded terrace, level terrace, bench terrace, ridge terrace, channel terrace, according to S.C.S. specifications.

EE h. After completing instruction in terracing, the student will be able to describe the uses and advantages of terraces to rural and urban people, following the guidelines set forth by the S.C.S.

EE i. Upon completion of training in terracing, the student will be able to describe the limitations or disadvantages of terraces, according to S.C.S. specifications.

EE j. Upon completion of training in terracing, the student will be able to discuss where terraces should be used, according to S.C.S. specifications.

DA k. After completing instruction in stockwater ponds, the student will be able to recommend stockwater ponds, according to S.C.S. specifications.

DA l. Upon completion of training in ponds, the student will be able to explain the two different types of ponds to agricultural workers, according to the two different types of ponds explained by the S.C.S.

EE m. Upon completion of training in ponds, the student will be able to explain the uses of ponds to rural and urban people, according to the uses outlined by the Soil Conservationist.

DA n. Upon completion of training in conservation planning, the student will be able to demonstrate the knowledge and skills needed to lay out conservation practices and plans, according to S.C.S. specifications.

EE o. Given instruction in reading aerial maps, the student will be able to read aerial maps, according to S.C.S. specifications.

EE p. Using an aerial map, the student will be able to gather data to be used for developing a farm or ranch plan, according to the soil type, land classification and average rainfall which are examples of the type of information needed.

EE q. Given a course in plant science, the student will be able to identify all of the common grasses and plants found in Illinois, according to their common and scientific names.

EE r. After completing instruction in identifying common trees, the student will be able to identify all of the common trees, found within your community, according to their common and scientific names.

DA s. After completing instruction in grass waterways, the student will be able to recommend grass waterways, according to S.C.S. specifications.

Engineering Aide G.S.-2

1. Introduction and personal qualities

EE a. In order to become employed by the Soil Conservation Service, the student must have a personality which allows him to communicate with people freely, according to S.C.S. job specifications. This can be accomplished by encouraging students to participate in the FFA public speaking contest, speech debates, group discussions and the FFA parliamentary procedure contest.

EE b. In order to become employed by the Soil Conservation Service, the student must be able to work with rural and urban people, according to S.C.S. specifications.

EE c. In order to work for the S.C.S., an employee must possess a valid drivers license, which meets the requirements set forth by the State of Illinois.

EE d. In order to work for the Soil Conservation Service, the student must be in good physical condition, according to S.C.S. specifications.

EE e. Before studying in an agricultural resources occupation's program, the student will be able to describe the job opportunities in the S.C.S., according to the jobs listed with their descriptions in this guide.

EE f. Before studying further in an agricultural resources occupation's program, the student will be able to fill out a job application, according to the specifications found in actual applications.

2. General agricultural production and conservation practices

EE a. After completion of training in agricultural production, the student will be able to understand the operation of tillage equipment, according to safe and correct operating procedures.

EE b. After completion of training in agricultural production, the student will be able to understand the operation of planting equipment, according to safe and correct operating procedures.

EE c. After completion of training in agricultural production, the student will be able to understand the operation of harvesting equipment, according to safe and correct operating procedures.

EE d. Upon completion of training in crop production, the student will be able to understand weed control measures, according to accepted weed control measures.

EE e. After completion of training in agricultural production, the student will be able to classify land according to its capability to produce, according to Soil Conservation Service standards.

3. Engineering instruments and practices

DA a. Using a set of surveying instruments which would include a rod, rangepole, tripod, hand sighting level, steel tape and marking stakes, the student will be able to recognize the malfunction of these instruments, according to the standard manner accepted by the Soil Conservation Service.

DA b. After using a set of surveying instruments, under supervision, the student will be able to adjust and clean the surveying instruments, according to the standard manner accepted by the Soil Conservation Service.

EE c. Using a tripod, the student will be able to demonstrate the proper method of setting up the tripod, according to S.C.S. specifications.

EE d. Given instruction in operating a tripod, the student will be able to operate the tripod, according to S.C.S. specifications.

EE e. Given instruction in staking, the student will be able to locate and stake a terrace line, according to S.C.S. specifications.

EE f. Using an altimeter, the student will be able to measure altitude, according to S.C.S. specifications.

EE g. Using a steel tape, the student will be able to demonstrate the proper method of measuring distances, according to S.C.S. specifications.

EE h. Using a surveyor's rod, the student will be able to demonstrate the skill needed to perform the position of rodman, in order to allow a surveyor using a tripod to take a reading.

EE i. Performing the task of surveyor, the student will be able to read the rangepole within .02 of a foot allowable error, according to S.C.S. specifications.

EE j. While in the field surveying a site where a pond or terrace is to be constructed and recording the information, the student will be able to record the information within .02 of a foot allowable error, according to S.C.S. specifications.

DA k. Upon being questioned about survey data, the student will be able to verify the accuracy of survey data, according to S.C.S. specifications.

DA l. While in the field surveying a site where a terrace, grass waterway or pond is to be constructed, the student will be able to prepare sketches, according to S.C.S. specifications.

EE m. Given an assignment to survey a job, the student will be able to demonstrate by examples the needed skills to prepare a report of the job activities, according to S.C.S. specifications.

EE n. Using a hand sighting level, the student will be able to obtain the percent of slope, according to S.C.S. specifications.

4. Conservation practices

EE a. Upon completion of instruction in conservation practices, the student will be able to demonstrate by example, knowledge of contouring according to S.C.S. specifications.

EE b. Upon completion of training in conservation practices, the student will be able to demonstrate a knowledge of terracing, which fulfills the requirements of the S.C.S.

EE c. Given a course in plant science, the student will be able to identify all of the common grasses and plants found in Illinois, according to their common and scientific names.

EE d. After completing instruction in identifying common trees, the student will be able to identify all of the common trees found within your community, according to their common and scientific names.

EE e. Upon completion of training in ponds, the student will be able to describe the factors which need to be considered in selection of a pond site, according to the factors given by the Soil Conservationist.

D. Wildlife

Conservation Police Officer

1. Care and management of our wildlife

EE a. By completing a course in wildlife, the student will be able to identify game and waterfowl.

EE b. By completing a course in wildlife, the student will be able to interpret laws pertaining to wildlife and correctly advise sportsmen about them.

EE c. By completing a course in wildlife, the student will be able to enforce state game and fish codes.

EE d. After completing a course in wildlife, the student will be able to investigate game conditions.

EE e. After completing a course in wildlife, the student will be able to perform the duties of inspector and supervisor in connection with the application and enforcement of game and fish laws and regulations.

EE f. After completing a course in Applied Biological Agricultural Occupations, the student will be able to direct projects beneficial to fisheries, wildlife, and forestry.

E. Agricultural Resources, Other

Environmental Protection Technician I

1. Introduction and personal qualities

EE a. In order to work for the E.P.A., the student must have developed the ability to establish and maintain good public relations and working relationships

with other employees and the general public, according to job specifications. This can be partially accomplished by encouraging student participation in student organizations.

EE b. In order to work for the E.P.A., the student must be willing to perform other duties as assigned or required, according to job specifications. Examples of the other duties would be running errands or assisting co-workers in their work.

EE c. In order to work for the E.P.A., the student must possess a valid Illinois drivers license, which meets the requirements set forth by the state of Illinois.

EE d. In order to work for the E.P.A., the student must have the ability to follow oral and written instructions, according to job specifications.

EE e. Given instruction in an agricultural resources course, the student will have the importance of training meetings and sessions explained, according to E.P.A. job specifications.

EE f. Given training in planning an awareness environment, the student will be able to describe at least two "how to do it" projects, according to the projects given in the Awareness packet.

EE g. Given training in environmental issues, the student will be able to gain experience in decision making according to the classroom discussions. Sample issues are:

(1) The auto, environment and values

(2) Integrating man and land

(3) Population perspectives

(4) You've got a lot of energy today

EE h. Given instruction in environmental awareness, the student will be able to describe environmental pollution problems

and suggest possible solutions, according to the environmental awareness slide presentation.

EE i. Given instruction in environmental awareness, the student will be able to describe at least two projects which can be undertaken to help clean up the environment, according to the environmental awareness slide presentation.

EE j. Given instruction in agriculture and the environment, the student will be able to describe how agriculture and the environment are interrelated, according to the film strip seen in class.

EE k. Given instruction in agriculture and the ecosystem, the student will be able to describe how agriculture and the ecosystem are interrrelated, according to the film strip seen in class.

EE l. Before studying further in agricultural resources, the student will be able to describe the job opportunities available in the E.P.A., according to the jobs listed with their descriptions in this guide.

EE m. Before studying further in agricultural resources, the student will be able to describe the careers available in natural resources management, according to the film strip seen in class.

EE n. Before studying further in agricultural resources, the student will be able to fill out a job application, according to the specifications given in the teaching plan on Applying for a Job.

EE o. Before studying further in agricultural resources, the student will be able to list sources where job information can be obtained, according to the list given in the teaching unit on Applying for a Job.

EE p. Before studying further in agricultural resources, the student will be able to compile a personal data sheet, according

to the instructions given in the unit on Applying for a Job.

2. Applicable laws

EE a. Given training in agricultural resources, the student will be able to express a knowledge of the Environmental Protection Act, according to E.P.A. job specifications.

EE b. Given instruction in the Environmental Protection Act, the student will be able to explain the purpose of the act, according to the purpose explained in the teaching plan on the act.

EE c. Given instruction in the Environmental Protection Act, the student will be able to define seventeen terms as used throughout the act, according to the definitions given in the teaching plan on the act.

EE d. Given instruction in the Environmental Protection Act, the student will be able to describe the framework of the Environmental Protection Agency (i.e. establishment of the agency; director-term and appointment; duties and powers of the agency), according to the framework described by the general assembly.

3. Records and reports

EE a. After completion of training in agricultural resources, the student will be able to maintain records and activity reports of jobs completed, according to the E.P.A. job specifications.

DA b. After participating in keeping records of samples taken and/or collected, the student will be able to demonstrate the skill needed to record results of samples taken or collected, according to E.P.A. job specifications.

DA c. After receiving instruction in maintaining reports on field inspections, the student will be able to demonstrate how to maintain reports on field inspections, according to E.P.A. job specifications.

4. Investigation procedures and practices

EE a. After completing training in agricultural resources, the student will be able to assist E.P.A. specialists in the collection of field data concerning pollution sources, according to E.P.A. job specifications.

DA b. After completing training in agricultural resources, the student will be able to assist E.P.A. specialists in the collection of field data concerning variance petitions, according to E.P.A. job specifications. Variance petitions --are petitions drawn up to decide if a particular business has to comply with the law or not.

DA c. Given training in E.P.A. follow-up inspections of clean-up operations, the student will be able to demonstrate the skills necessary to be responsible for follow-up inspections of clean-up operations, according to E.P.A. job specifications.

EE d. After receiving instruction in the use and care of a camera, the student will be able to operate and maintain a camera for field testing and sampling, according to E.P.A. job specifications.

DA e. After receiving training in the use and care of the Hack Field Test Kit, the employee will be able to demonstrate how to operate and maintain the Hack Field Test Kit for field test and sampling, according to E.P.A. job specifications.

DA f. After receiving training in the use and care of the Dissolved Oxygen Meter and Sampler, the employee will be able to demonstrate how to operate and maintain the Dissolved Oxygen Meter and Sampler, according to E.P.A. job specifications.

DA g. After receiving instruction in the use of the pH Testing Kit, the employee will be able to demonstrate how to use the pH Test Kit, according to E.P.A. specifications.

DA h. After receiving training in the use of the Chloride Test Kit, the employee will be able to use the Chloride Test Kit, according to the E.P.A. job specifications.

EE i. After completing training in agricultural resources, the student will be able to demonstrate the proper method of collecting samples from public water facilities, according to E.P.A. job specifications.

EE j. After completing training in agricultural resources, the student will be able to demonstrate the proper method of collecting samples from landfills, according to E.P.A. job specifications.

EE k. After completing training in agricultural resources, the student will be able to demonstrate the proper method of collecting samples from public waste water facilities, according to E.P.A. job specifications.

Environmental Health Inspector I

1. Introduction and personal qualities

EE a. In order to work for the Department of Public Health, the student must be able to maintain satisfactory working relationships with other employees and the general public, according to their specifications.

EE b. In order to work for the Department of Public Health, the student must be willing to perform other duties as assigned or required, according to public health job specifications.

EE c. In order to work for the Department of Public Health, the student must possess a valid Illinois drivers license, which meets the requirements set forth by the state of Illinois.

EE d. In order to work for the Department of Public Health, the student must have the ability to follow oral and written instructions, according to public health job specifications.

EE e. Given instruction in an agricultural resources course, the student will have the importance of training sessions and meetings explained, according to public health job specifications.

EE f. Given training in planning an awareness environment, the student will be able to describe at least two "how to do it" projects, according to the projects given in the awareness packet.

EE g. Given training in environmental issues, the student will be able to gain experience in decision making, according to the classroom discussions. Sample issues are:

(1) The auto, environment and values

(2) Integrating man and land

(3) Population perspectives

(4) You've got a lot of energy today

EE h. Given instruction in environmental awareness, the student will be able to describe environmental pollution problems and suggest possible solutions, according to the environmental awareness slide presentation.

EE i. Given instruction in agriculture and the environment, the student will be able to describe how agriculture and the environment are interrelated, according to the film strips seen in class.

EE j. Given instruction in agriculture and the ecosystem, the student will be able to describe how agriculture and the ecosystem are interrelated, according to the film strip seen in class.

EE k. Before studying further in agricultural resources, the student will be able to describe the job opportunities available in the Department of Public Health, according to the jobs listed with their descriptions in this guide.

EE l. Given a brief description of careers in natural resources, the student will be able to describe careers available in natural resources management, according to the film strip seen in class.

EE m. Before studying further in agricultural resources, the student will be able to fill out a job application, according to the specifications given in the teaching plan on Applying for a Job.

EE n. Before studying further in agricultural resources, the student will be able to compile a personal data sheet, according to the instructions given in the teaching plan on Applying for a Job.

2. Applicable laws

EE a. Given instruction in agricultural resources, the student will be able to name the programs of the Consumer Health Protection Agency, according to those programs listed in the teaching plan on health protection programs.

EE b. Given instruction in agricultural resources, the student will be able to name and describe the five divisions of the Consumer Health Protection Agency, according to the divisions given in the teaching plan on health protection programs.

EE c. Given instruction in agricultural resources, the student will be able to inform facility owners and operators of the Illinois Food, Drug and Cosmetic Act, according to class discussions on the act.

EE d. Given instruction in agricultural resources, the student will be able to inform facility owners and operators of the Sanitary Inspection Law, according to the material discussed in class.

EE e. After completing instruction in the Food in Salvage Warehouses law, the student will be able to inform facility owners and operators of basic sanitation methods in order to come into compliance with the law, according to public health standards.

EE f. After completing instruction in agricultural resources, the student will be able to inform facility owners and operators of the Sale of Bread law, according to the material discussed in class.

EE g. After completing instruction in agricultural resources, the student will be able to inform facility operators of the Fair Packaging and Labeling act, according to public health job specifications.

EE h. After completing instruction in agricultural resources, the student will be able to inform facility operators of the Private Sewage Disposal Licensing Act and Code, according to the guidelines given in the act and code.

EE i. After completing instruction in agricultural resources, the student will be able to inform facility owners of the Plumbing Licensing law, according to the guidelines given in the law.

EE j. After completing instruction in agricultural resources, the student will be able to inform facility operators of the Mass Gathering law, according to the guidelines given in the law.

EE k. After completing instruction in the Migrant Labor Camp law, the student will be able to define the purpose of the migrant labor camp law, according to the purpose given in the teaching plan on this law.

EE l. After completing instruction in the Migrant Labor Camp law, the student will be able to explain the rules and regulations effecting camp sites, according to Article II of the law.

EE m. After completing instruction in the Migrant Labor Camp law, the student will be able to explain the rules and regulations concerning housing of migrant labor camps, as explained in Article III.

EE n. After completing instruction in the Rules and Regulations for Sanitary Practice of Drinking Water, the student will be able to inform facility operators of these rules, according to public health standards.

EE o. After completing instruction in the Water Well Pump Installation Law, the student will be able to inform facility owners and operators of the law, according to public health standards.

EE p. After completing instruction in the Lead Poisoning Prevention Act, the student will be able to inform facility owners of the act, according to the guidelines given in this act.

EE q. After completing instruction in agricultural resources, the student will be able to explain and describe the purposes of each of the above laws, according to the purposes described in each law.

3. Records and reports

EE a. After receiving instruction in making activity reports and records of investigations, the student will be able to prepare activity reports and records of investigations, according to public health standards.

DA b. Upon completion of training in writing correspondence letters, the student will be able to write them, according to public health standards.

4. Investigation procedures and practices

DA a. Upon completion of instruction in making inspections to determine compliance with applicable laws (dealing with general sanitation and public water facility laws),

the student will be able to make routine inspections to determine compliance with applicable laws, according to public health standards.

DA b. After receiving training in sanitary inspections of retail food plants, the student will be able to make routine sanitary inspections of retail food plants, for compliance of established standards of sanitation.

DA c. After receiving instruction in investigating consumer complaints, the student will be able to investigate consumer complaints, according to public health standards.

DA d. After receiving instruction in inspection of general sanitation facilities, the student will be able to make routine inspections of general sanitation facilities including youth camps, migrant labor camps, state institutions, private water supplies, and sewage disposal, according to public health standards.

EE e. Given instruction in selecting, preparing, and submitting samples of food or samples of water for laboratory analysis, the student will be able to select, prepare and submit samples of food or water for laboratory analysis, according to public health standards.

DA f. Given instruction in performing field laboratory tests of water and interpreting the results, the student will be able to perform simple field laboratory tests of water and interpret the results to pool operators, according to public health standards.

DA g. After receiving training in the interpretation of laboratory analysis, the student will be able to interpret laboratory analysis, according to public health standards.

DA h. Upon completion of training in the collection of data for use in prosecution of cases, the student will be able to assist with the collection of data

(documentary evidence) for use in the prosecution of cases of noncompliance, according to public health standards.

DA i. After receiving training in biological and chemical analysis of samples, the student will be able to perform biological and chemical analysis of samples and interpret the results to owners and operators, according to public health standards.

CORE COURSE OUTLINE FOR AGRICULTURAL RESOURCES

Course Outline	Reference Code	Reference
VI. Agricultural Resources		
A. Forests		
1. Care and maintenance of timber		
a. Tree identification	TR or SR	Carter, J. Cedric Illinois Trees: Selection, Planting, and Care (1) Viertil, Arthur T. Trees, Shrubs, and Vines (4)
b. Establishing the forest	TR or SR	Hilterbrand, L. R. Introduction to Forestry (2) U.S.D.A. Managing the Family Forest (3) Illinois Resource Management Forest Conservation Teachers Manual (7)
c. Measuring trees	TR or SR	Allen, Shirley W. and Sharpe, Grant W. An Introduction to American Forestry (5) (2) (7)
d. Management of the forest	TR or SR	(2) (5) (7)
e. Insects and diseases of the forests	TR or SR	Anderson, R. E. Forest and Shade Tree Entomology (6) (2) (7)
f. Fire control	TR or SR	(2) (5) (7)
g. Harvesting trees	TR or SR	(5) (3) (1)

KEY: TR-TEACHER REFERENCE
SR-STUDENT REFERENCE

Course Outline	Reference Code	Reference
B. Recreation		
1. Site interpretive specialist		
a. Nature appreciation of outdoor recreation (teaching plan in teaching plan section)	TR	Shoman, Joseph J. Manual of Outdoor Interpretation (8) Tilden, Freeman Interpreting Our Heritage (9)
b. Outdoor interpretation	TR or SR	(8) (9)
c. Outdoor laboratories	TR	(8) (9)
2. Outdoor Recreation Activities		
a. Establishing outdoor recreation enterprises	SR	Smith, Clodus R. Rural Recreation for Profit (10)
b. Maintaining and operating recreational enterprises	SR	(10)
c. Nature arts and crafts	SR	Swan, Malcohm O. Tips and Tricks in Outdoor Recreation (16) (9) (10)
d. Nature oriented recreational activities	TR	Doell, Charles E. and Twardzik, Louis L. Elements of Park Recreation Administration (11)
e. Keeping records	TR	U.S. Department of Labor The Why and What of Bookkeeping (17)
3. Care and management of parks		
a. Establishment and maintenance	TR or SR	Dupage, Wilbur F. and Ragain, Dale P. A

Course Outline	Reference Code	Reference
of camping and picnicking grounds (teaching plan in teaching plan section)		Second Look at the Heavy Half of the Camping Market (12)
b. Maintenance and repair of buildings	TR	(10)
c. Maintaining recreational activities	SR	Department of Public Health Rules and Regulations for Recreational Areas (18) (10) (11)
d. Maintaining athletic fields		Ohio State University Turf Management (19) Pennsylvania State University Turfgrass Maintenance and Establishment--A Teacher's Manual (20)
e. Repairing and renovating automotive equipment	SR	AAVIM Small Engines (21) Iowa State University of Science and Technology Operating Farm Tractors and Machinery, Efficiently, Safely (22)
f. Water treatment plants, operation and maintenance	TR	The Texas Water Utilities Association Manual of Water Utility Operations (23) American Public Health Association Standard Methods for the Examination of Water and Waste Water (24)
4. The practice of hunting and fishing guides		
a. Hunting game animals (1) Planning and outfitting the trip	SR	Cramond, Michael Hunting and Fishing in North America (13) Ormond, Clyde Hunting (14)

Course Outline	Reference Code	Reference
(2) Big game animals	SR	(13) (14)
(3) Small game animals	SR	(13) (14)
(4) Dressing and skinning game	SR	(13) (14)
b. Hunting game birds		
(1) Planning and outfitting the hunt	SR	(13) (14)
(2) Hunting upland birds	SR	(13) (14)
(3) Hunting waterfowl	SR	Henes, Bob Ducks at a Distance (15)
(4) Plucking and preparing birds	SR	(13) (14)
C. Soil		
1. Introduction and personal qualities		
a. Importance of participating in youth organizations		
b. Importance of getting your drivers license		
c. Importance of developing a good physical condition		
d. Job opportunities in the Soil Conservation Service	TR	Job descriptions in this program planning guide (25)
e. Applying for a job, general information (teaching plan in teaching plan section)		New York State Dept. of Labor Why Young People Fail to Get and Hold Jobs (26) Blackledge, Walter L. and Blackledge, Ethel H. and Keily, Helen J. The Job You Want--How to Get It (27)

Course Outline	Reference Code	Reference
		Kushner, John A. and Keiley, Helen J. How to Find and Apply for a Job (28) V.A.S. Slidefilm Applying for a Job (1 av) V.A.S. Unit Applying for a Job (6 av)
2. General agricultural production and conservation practices		
a. Understanding the operation of tillage equipment	TR	Agricultural Production Program Planning Guide (29)
b. Understanding the operation of planting equipment	TR	(29)
c. Understanding the operation of harvesting equipment	TR	(29)
d. Weed control measures for crop production	TR	National Academy of Sciences Weed Control (30)
e. Crop rotation practices	TR	Agricultural Production Program Planning Guide (31) Cooperative Extension Service, Univ. of Illinois Illinois Agronomy Handbook (32) Martin and Leonard Principles of Field Crop Production (33) V.A.S. Unit Field Arrangement Principles (7 av)
f. Land classification according to use	TR	Local Soil Conservation Service (34)
g. Land use planning (1) Data collection (2) Suggesting alternatives (3) Selecting best alternative	TR	(34)

Course Outline	Reference Code	Reference
(4) Applying proper plan (5) Operation and maintenance of the problem		
3. Engineering instruments and practices		
a. Introduction to surveying	TR or SR	V.A.S. Unit Farm Surveying (8 av)
b. Identification of the steel tape, hand sighting level, rangepole, and the tripod level		
c. Setting up the tripod level	TR or SR	(8 av)
d. Adjusting the tripod level		
e. Operating the tripod level	TR	Instructions sent with surveying kit (35)
f. Measuring distance with the steel tape	TR or SR	V.A.S. Farm Surveying Unit (36) V.A.S. Slidefilm Using the Steel Tape in Surveying (2 av)
g. Measuring angles with the steel tape	TR	V.A.S. Farm Surveying Unit (37)
h. Using the level to stake out a building	TR or SR	V.A.S. Slidefilm Using the Level to Stake Out a Building (3 av)
i. Using the level in farm surveying	TR or SR	V.A.S. Slidefilm Using the Level in Farm Surveying (4 av)
j. Performing the position of rodman		

Course Outline	Reference Code	Reference
k. Differential leveling	TR or SR	V.A.S. Farm Surveying Unit (38)
l. Profile leveling	TR or SR	V.A.S. Farm Surveying Unit (39)
m. Recording field notes in surveying	TR	V.A.S. Slidefilm Recording Field Notes in Surveying (5 av)
4. Conservation practices		
a. Introduction to conservation practices	TR	Griffith, Charles J., Landin, Edward, and Jostard, Karen The New Conservation (40) Dasman, Raymond Environmental Conservation (41)
b. Contouring (teaching plan in teaching plan section)	TR or SR	V.A.S. Unit Contouring (9 av)
c. Terracing (teaching plan in teaching plan section)	TR or SR	V.A.S. Unit Terracing (10 av)
d. Grass waterways	TR or SR	V.A.S. Unit Grass Waterways (11 av)
e. Ponds (teaching plan in teaching plan section)	TR	Kohnke, Hehnut and Bertrude, Anson R. Soil Conservation (42) U.S.D.A. Engineering Handbook for Soil Conservationists in the Corn Belt (43)
f. Identifying common trees in Illinois		
g. Identifying common plants in Illinois		
h. Reading aerial maps	TR	Local Soil Conservation Service (44)
i. Laying out conservation plans	TR	(44)

Course Outline	Reference Code	Reference
D. Wildlife		
1. Conservation Police Officer Trainee		
a. Identification of native wildlife, their babies, and characteristics	TR	Collins, Henry Hill, Jr. Complete Field Guide to American Wildlife (45) Elman, Robert The Hunter's Field Guide (49)
b. Establishment and maintenance of wildlife habitats	SR	The Wildlife Society A Manual of Wildlife Conservation (50) (25)
c. Federal hunting and fishing regulations	TR	Illinois Department of Conservation Hunting and Fishing Regulations (51)
d. Enforcement of game laws and regulations	TR	(49) (51)
e. Enforcement of boating laws and regulations	TR	Illinois Department of Conservation Boating Regulations (52)
E. Agricultural resources, other		
1. Introduction and personal qualities		
a. Importance of participating in youth organizations		
b. Importance of getting your drivers license		
c. Importance of attending training sessions and meetings		

Course Outline	Reference Code	Reference
d. Planning an awareness environment	TR	Minnesota Environmental Sciences Foundation, Inc. "Planning an Awareness Environment" filmstrip and technique packet (53)
e. Environmental issues	TR	Minnesota Environmental Sciences Foundation, Inc. "Environmental Issues Series" (54)
f. Environmental awareness (teaching plan in teaching plan section)	TR	Stitt, Thomas R. Slide set on environmental awareness (55)
g. Agriculture and the environment	TR or SR	V.A.S. Slidefilm Agriculture and the Environment (12 av)
h. Agriculture and the ecosystem	TR or SR	V.A.S. Slidefilm Agriculture and the Ecosystem (13 av)
i. Job opportunities available in the Department of Public Health	TR	Job descriptions in this program planning guide (56)
j. Job opportunities available in the Environmental Protection Agency	TR	(56)
k. Careers in natural resources management	TR or SR	Vocational Education Productions "Careers in Natural Resources Management" filmstrip (57)
l. Applying for a job, general information (teaching plan in teaching plan section)	TR	(25) (26) (27) (28) (1 av) (6 av)

2. Applicable laws

Course Outline	Reference Code	Reference
a. General information on consumer health protection programs (teaching plan in teaching plan section)	TR	Illinois Department of Public Health Programs and Responsibilities; Consumer Health Protection (58)
b. The environmental protection act, general provisions (teaching plan in teaching plan section)	TR	Illinois E.P.A. State of Illinois: The Environmental Protection Act (59)
c. Illinois food, drug and cosmetic act	TR	Illinois Department of Public Health Illinois Food, Drug, and Cosmetic Act; Food in Salvage Warehouses Law; Sale of Bread Law; Fair Packaging and Labeling Act; Sanitary Inspection Law (60)
d. Food in salvage warehouses	TR	(60)
e. Sale of bread	TR	(60)
f. Fair packaging and labeling act	TR	(60)
g. Sanitary inspection law	TR	(60)
h. Private sewage disposal licensing act and code	TR	Illinois Department of Public Health Private Sewage Disposal Licensing Act and Code; Plumbing Licensing Law; Mass Gathering Law; Migrant Labor Camp Law; Rules and Regulations for Sanitary Practice of Drinking Water; Water Well Pump Installation Law; Lead Poisoning Prevention Act (61)
i. Plumbing licensing law	TR	(61)
j. Mass gathering law	TR	(61)

Course Outline	Reference Code	Reference
k. Migrant labor camp law, definitions, rules, and regulations (teaching plan in teaching plan section)	TR	(61)
l. Rules and regulations for sanitary practice of drinking water	TR	(61)
m. Water well pump installation law	TR	(61)
n. Lead poisoning prevention act	TR	(61)
3. Records and reports		
a. Keeping records of work being performed (records and reports)	TR	On the job training (62)
b. Keeping records of samples taken and/or collected	TR	(62)
c. Writing correspondence letters	TR	(62)
d. Reports on field inspections	TR	(62)
4. Investigation procedures and practices		
a. Making field inspections	TR	Speakers (63)
b. Follow-up inspections of clean-up operations	TR	(63)

Course Outline	Reference Code	Reference
c. Investigating consumer complaints	TR	(63)
d. Using and caring for a camera	TR	Class demonstration (64)
e. Selecting, preparing and submitting samples of food or water for laboratory analysis	TR	Lab technician as speaker (65)
f. Performing field laboratory test of water	TR	(62)
g. Interpreting laboratory analysis results	TR	(62)
h. Collecting samples from landfills	TR	V.A.S. Unit Collecting or Preparing Soil Samples for Testing (14 av)
i. Collecting samples from public waste water facilities		

EXEMPLARY TEACHING PLANS

VI. Agricultural Resources

B. Recreation

UNIT: 1. Site Interpretive Specialist

PROBLEM AREA: a. Nature Appreciation and Outdoor Interpretation

TEACHING PLAN

I. INTRODUCTION: Due to the need for experiences in the out-of-doors, people are turning outdoors as never before. Parks and nature preserves cannot absorb all the people who want out-of-doors experiences.

II. STUDENT PERFORMANCE OBJECTIVES:

The student will be able to:

A. Correctly define interpretation and interpret how enjoyment of nature is a creative activity.

B. Indicate why knowing nature is necessary for our survival.

C. Characterize how we learn to know nature.

D. Define outdoor interpretation.

E. Outline the principles of outdoor interpretation.

F. Indicate how the meaning, importance and principles of outdoor interpretation are wrapped up together.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Nature appreciation and an outdoor conscience.
1. Enjoyment of nature as a creative act
2. Impact of nature upon many levels
3. Altering the environment

B. Appreciation of nature.
   1. Need for nature appreciation
   2. Art of nature and art of awareness

C. Outdoor interpretation - meaning of -
   1. Definition
   2. Growth of outdoor interpretation
   3. A conservation conscience
   4. Encouragement of an appreciation of nature

D. Outdoor interpretation - principles of -
   1. Meaning behind outdoor interpretation
   2. Knowing one's surroundings
   3. Value to people
   4. Importance of outdoor interpretation

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Visit a scenic area and describe how a creative involvement occurs.

B. Observe the surroundings and indicate how man is altering his environment.

C. Observe how non-consumptive forms of outdoor recreation do not diminish the quality of the environment.

D. Participate in field trips to develop nature appreciation.

E. Plan a farm site, blending the features, walks, etc., into the landscape.

V. SPECIAL MATERIALS AND EQUIPMENT:

A. Binoculars

B. Identification keys - plants, animals and rocks

C. Drawing instruments

D. Walking shoes

VI. STUDENT REFERENCES:

A. Shoman, Joseph J., Manual of Outdoor Interpretation, National Audubon Society, New York, 1968, 104 page a.

B. Tilden, Freeman, Interpreting Our Heritage, University of North Carolina Press, Chapel Hill, N.C., 1967, 120 pages.

VI. Agricultural Resources

B. Recreation

UNIT: 3. Care and Management of Parks

PROBLEM AREA: a. Establishing and Maintaining Camping and Picnicking Grounds

TEACHING PLAN

I. INTRODUCTION: Participation in camping, picnicking and outdoor sports are growing rapidly. In many areas the supply of facilities have not met the demand. Like other industries the net returns from these enterprises will depend upon the service the participants receive.

II. STUDENT PERFORMANCE OBJECTIVES:

The student should be able to:

A. Plan a camp layout. Proper selection of site is important since an appropriate site will contribute to success of a campground.

B. Select and layout a campsite. By using surveying equipment, layout the site for greatest ease of operation and service to clientele.

C. Organize and implement a beautification program. Using mechanical and chemical methods implement a vegetation and pest control program which will enhance the esthetics and usefulness of the area.

D. Consider the supplemental enterprises which will provide the greatest returns consistent with the needs of the clientele and protection of the site.

E. Implement and perform the necessary managerial practices which will supply the greatest returns consistent with utilization and protection of the site.

F. Implement and perform the necessary maintenance practices which will supply the greatest returns consistent with the utilization and protection of the site.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Determine the kind of outdoor recreation enterprise to establish.
   1. Determine the cost of establishment
   2. Determine the managerial and operational skills that are necessary
   3. Determine other enterprises to supplement income

B. Determine the best site for a campground
   1. Determine the physical features present
   2. Determine the water supply and potential
   3. Evaluate the physical features compatible with camping
   4. Evaluate the water - present and potential - supply

C. Determine the campground layout
   1. Locate the campgrounds and make the site selections
      a. Arrange the campsites with the required space for each day
      b. Provide the necessary roads - connecting and accessary
      c. Determine the drainage work required

D. Select site for picnic area
   1. Locate the picnic grounds and make the site selection
      a. Plan for the desired type of picnic activities
      b. Evaluate the physical site features
      c. Evaluate the present and future income returns

E. Determine the picnic layout
   1. Layout the picnic area and roads
   2. Layout the desirable physical features
   3. Locate entrance signs, gates, etc.
   4. Locate sanitation and water facilities
   5. Locate trails and paths

F. Landscape area where needed

G. Sanitation facilities
   1. Determine adequate water supplies
      a. Sources
      b. Health requirements
      c. Treatment requirements
      d. Distribution system

H. Determination of sanitation system
   1. Sewage system - kind, operation and maintenance required
   2. Garbage - collection, and disposal - kind, operation and maintenance required

I. Determine safety measures
   1. Locate and correct potential hazards
   2. Implement proper insurance program

J. Maintain camping and picnicking grounds
   1. Control undesirable vegetation
   2. Control undesirable insects and pests
   3. Repair facilities
   4. Operate and repair equipment

K. Developing supplemental income
   1. Supplemental enterprises
   2. Present and potential income

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Visit a nearby camping and/or picnic area and ascertain the success of the enterprise.

B. Plan and layout a campground using existing school or nearby facilities.

C. Plan and layout a picnic ground using existing school or nearby facilities.

D. Have the students determine the desirable supplemental incomes from an existing enterprise.

E. Visit nearby picnicking facilities and have students note the exisiting profitable enterprises.

F. Plan a vegetation and pest control program. Have students operate equipment used in control.

G. Have students plan, execute, and operate a campground and/or picnic facility on school property.

V. SPECIAL MATERIALS AND EQUIPMENT:

A. Surveying equipment

B. Measuring instruments

C. Land clearing tools

D. Hand tools for road, path, and trail establishment

E. Drawing instruments

F. Carpentry and masonry tools

VI. STUDENT REFERENCES:

A. Smith, Clodus R., Rural Recreation for Profit, Danville, Illinois, The Interstate Printers and Publishers, Inc., 1968.

B. Rules and Regulations for Recreational Areas, Department of Public Health, Bureau of Environmental Health, Division of Swimming Pools and Recreation, Springfield, Illinois, 1972.

VI. Agricultural Resources

C. Soil

UNIT: 1. Introduction and Personal Qualities

PROBLEM AREA: e. General Information on Applying for a Job

TEACHING PLAN

I. INTRODUCTION: Somewhere, somebody is always looking for a job. That person may be seeking a more challenging job, re-entering the job market after years of being out of the labor force, or that person may be looking for a job for the first time. Regardless of the classification, there are some guidelines that should be followed to be successful in finding the right job. Whether it be a full time or part time job, there are always applications to fill out, resumes to send in, and interviews to take.

This unit is designed to help persons applying for a job by presenting the guidelines an employer looks for in a prospective employee and presenting how that prospective employee can best show he can meet the employer's expectations.

II. STUDENT PERFORMANCE OBJECTIVES:

A. Upon completion of this unit, the student will be able to list various sources where job information can be obtained, according to the list given in classroom lecture.

B. Upon completion of this unit, the student will be able to discuss how misrepresentation can adversely effect job opportunities as presented in classroom discussion.

C. Upon completion of this unit, the student will be able to accurately fill out a job application according to the specifications in the actual applications.

D. Upon completion of this unit, the student will be able to compile a personal data sheet (inventory) to the satisfaction of the instructor.

E. Upon completion of this unit, the student will be able to achieve a competency of 75% or better on a comprehensive test of the unit.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Places to locate a job
   1. The school placement service is available in many institutions.
      a. Large high schools
      b. Private business schools
      c. Colleges and universities
   2. A person sometimes needs to search for a job through his own resources. Many of the best jobs go to those persons who actively seek employment.
      a. Friends and relatives
      b. Former employers
      c. Employers for whom you would like to work
      d. Sources include:
         (1) College Placement Annual by the College Placement Publications Council
         (2) Thomas' Register of American Manufacturers
         (3) Moody's Manuals
         (4) Fitch Corporation Records
         (5) Dunn and Bradstreet Reference Book
         (6) Consumer Annual Reports
         (7) Your knowledge of your own community and the jobs in it
      e. Help-wanted advertisements
      f. Situation-wanted advertisements
      g. Newspaper news items
   3. Employment agencies are excellent sources of job openings.
      a. Public employment agencies
         (1) Discuss where local unit is
         (2) Discuss how the service was brought about
      b. Private or commercial employment agencies
         (1) Point out advantages
         (2) Also point out disadvantages
      c. Dealer employment agencies (companies manufacturing or dealing in appliances requiring skilled operators, especially dealers in typewriters and other office equipment).
      d. Professional association employment agencies
         (1) Members of professions such as accountants, nurses, engineers, etc.
         (2) College students who intend to follow their professions

B. Why should you sell yourself?
   1. When applying for a job, you are a salesperson, but instead of selling a product, you are selling yourself--your ability, your skill, and your personal qualities. You should know yourself well enough to answer unusual personal questions without a moment's hesitation.

C. What is a letter of application?
   1. A letter of application is a sales letter in which you capitalize on your academic and personal preparation by tailoring the information you give to fit the job that you are seeking.

D. What is a personal inventory?
   1. A personal inventory consists of personal characteristics such as:
      a. Name, address, Social Security, and telephone numbers
      b. Age and birthplace
      c. Height and weight
      d. Health and physical defects
      e. Home background
      f. Hobbies and recreation
   2. Educational characteristics
      a. Your education
      b. School activities
   3. Experience
      a. Formal job experience
      b. Volunteer work
   4. What you can do
   5. Your ambitions
   6. References

E. Should a person make a good first impression?
   1. Yes, because first impressions are often lasting. The following are just a few good points to remember.
      a. Go alone to apply for a position
      b. Timing is important, make sure to be on time
      c. Make sure your appearance is suitable to make a good impression
      d. Your posture may attract attention, make sure it is favorable attention
      e. Be pleasant
      f. Introduce yourself in a quiet easy way
      g. Have a relaxed appearance
      h. Performance tests are often given. Always follow directions explicitly on these tests

F. How should you respond to the interviewer?
   1. Careful language skills create a favorable atmosphere
      a. Language skill is one of the chief tools of some occupations
      b. In other occupations, language skills are not so important, but the employer is sure to notice mistakes in English made by an applicant
   2. Salary and benefits are important
      a. It is advantageous not to discuss salary early in an interview
      b. When salary is discussed, it is better not to state a specific amount when asked what you as an employee would work for

3. Complainers don't win jobs
   a. Avoid saying anything that will give the employer the idea that you are a whiner, complainer or trouble maker
   b. Employers steer clear of complainers, so if you can't say something pleasant about your previous job, school, college, etc., it is better to say nothing
4. Asking questions
   a. Questions that show you have an interest in the company will be of advantage to you as an applicant
   b. Preparing a list of questions will be helpful
5. Closing the interview
   a. Many factors might need to be taken into consideration by the employer; therefore, an applicant should not be disappointed if he is not offered a job at the interview
   b. When the interview is over do not delay leaving as this sometimes ruins an otherwise good interview

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Have the students fill out a job application for a major company according to the specifications in the application.

B. Discuss the different types of clothing today and the personal qualities such as hair, cleanliness, etc., and how it has an effect on the job interview.

C. Go through a simulated job interview in class by having the instructor or another student be the employer asking questions to a prospective employee. Point out errors made in the course of such actions.

D. Have the students make a list of questions which they would ask if they were in an actual interview. The teacher should give a specific company which they are supposedly being interviewed by, such as General Telephone Company, etc. so the students can get specific questions formed.

E. Have the students make a list of questions that the employer might ask the prospective employee. Make sure the questions are concise and to the point. In the classroom situation have other students answer the questions being asked.

F. Have the students write their own personal data sheet. Make sure that the lists are complete with all the important information that would possibly be needed such as education data, age, physical features, etc.

G. Have students pick out a job opening in a local newspaper and write a letter of application for the job. The teacher should check over the letter before it is sent to insure that it is free of mistakes and is well written.

H. Have students telephone a job advertisement to get an appointment. This could also be done in the classroom by having the student use a fake telephone rather than the real thing.

I. As an auxilary exercise, have the student follow up the exercise in letter H by going to the office where the appointment is and secure the fact that the appointment exists.

V. STUDENT REFERENCES:

A. Why Young People Fail to Get and Hold Jobs, published by the New York State Department of Labor.

B. The Job You Want--How To Get It, Blackledge, Walter L.; Blackledge, Ethel H.; and Keily, Helen J., published by South-Western Publishing Company, Copyright 1975.

C. How To Find and Apply for a Job, Kushner, John A. and Keily, Helen J., published by South-Western Publishing Company, Copyright 1975.

VI. Agricultural Resources

C. Soil

UNIT: 4. Conservation Practices

PROBLEM AREA: b. Contouring

TEACHING PLAN

I. INTRODUCTION: Contouring is done by farmers (farming hilly land) to aid in the prevention of soil erosion. Billions of dollars are lost each year due to heavy rains washing valuable fertilizer down the creek. One effective way to reduce runoff and erosion is to place plant rows and tillage lines at right angles to the normal flow of surface runoff. The resistance to flow and the surface storage thus provided slow down the runoff and gives the water more time to infiltrate into the soil instead of directly running off.

II. STUDENT PERFORMANCE OBJECTIVES:

A. After receiving instruction in contouring, the student will be able to describe the purpose of contouring to Illinois agriculturalists, according to the purposes described by the Soil Conservation Service.

B. After completing training in contouring, the student will be able to describe the effects of contouring to any group of people, according to the effects of contouring explained by the S.C.S.

C. After completing training in contouring, the student will be able to describe the place of contouring, as outlined by the S.C.S.

D. After receiving instruction in contouring, the student will be able to describe some of the factors which need to be considered when laying out contours, according to Soil Conservation Service specifications.

E. Upon completion of this unit, the student will be able to describe some of the disadvantages of contouring, according to the Soil Conservation Service suggestions.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. What is the purpose of contouring?
   1. As mentioned in the introduction, one purpose of contouring is to reduce runoff and erosion by placing plant rows and tillage lines at right angles to the normal flow of surface runoff.
   2. While contouring is effective in conserving both water and soil, its main purpose varies with the climate, soil, and land use.
      a. On pasture in a semiarid climate, water conservation is the chief goal.
      b. In a cultivated field in a climate with heavy showers, soil conservation is the almost exclusive purpose of contouring.
   3. Contouring serves a double duty.
      a. Aiming at the conservation of moisture.
      b. Aiming at the conservation of soil.

B. What are the effects of contouring?
   1. The primary effect of contouring is to create a large volume of detention storage on the soil surface.

C. Does this effect of contouring have good results?
   1. Basically it does.
      a. The results of the primary effect are the reducing and slowing down of runoff.
      b. Consequently this results in a reduction of erosion.

D. Are there any other effects of contouring?
   1. Yes.
      a. Contouring causes water runoff to take indirect routes in its descent.

E. What advantage is there in having the water runoff in an indirect manner?
   1. This reduces the slope gradients the water follows and slows it down.
      a. By having the water runoff spread over a greater area, the peak rate of runoff is decreased.

F. The soil receiving the most benefit from contouring is:
   1. Permeable soil with a high infiltration capacity.

G. The soil receiving the least benefit from contouring is:
   1. Slowly permeable soil because the surface storage is soon filled up.

H. The place for contouring
   1. Contouring fits best on cultivated sloping land.
      a. Class I land is usually so level that cultivation can proceed in any direction.
         (1) Contouring is not needed here.
      b. Class II and III land represent the bulk of the land where contouring is needed and practical.
      c. Class IV land is generally kept in meadow or pasture.
         (1) Contouring is used only when it is in small grain or in preparation of new seeding.
      d. Class V land is normally covered by permanent vegetation due to certain features that prohibit cultivation.
         (1) This land doesn't need cultivation, nor can contouring be used on it.
         (2) Contouring is most effective on pervious (permeable) soils of high infiltration capacity.

I. Factors to consider to lay out contours.
   1. Lay out an individual contour line in the field, stakes are driven into the ground at intervals on points of equal elevation.
      a. These are readily determined by use of a level.
         (1) Depending on the desired accuracy, an engineer's transit, farm level, an abney level, or simple carpenter's level may be used.
   2. If we adhere to actual contours of the land too much, farming will become difficult because of the many point rows resulting from the fact that true contour lines do not run parallel for any appreciable distance.
      a. Therefore, we must compromise when laying out contours.
   3. Generally, it is permissable to allow the rows to be as much as three per cent off the contour for short distances.
      a. However, every field presents a different problem from that of any other field.
         (1) Experience is needed to recognize the most practical solution.

J. We must also account for the change in field boundaries and fences when changing to contouring from straight row farming.
   1. In order to avoid excessive turning.
   2. Because land-use-capability class boundaries frequently coincide approximately with contour lines.

K. Contouring means not only to plant on the contour but also to cultivate and plow on the contour.
   1. Why?
      a. Research has shown in various parts of the United States that contour farming saves from 0.5 to 19.0 inches of water per year.
      b. From 0.3 to 41.8 tons of soil per acre per year is saved.

L. Are yields increased or decreased by contouring?
   1. Research has shown that yields are increased an average of ten per cent.
      a. This is because of the moisture conservation.
      b. Also because of the protection given to seedling plants from washing out.

M. Disadvantages of contouring
   1. Possible accumulation of water in danger spots of the slope if the lines are off the contour for any appreciable distance.
   2. Point rows are difficult to farm.

N. Are there any corrections that can be made so that water won't accumulate in a danger spot?
   1. Adjustment of the tillage direction and establishment of sod waterways are the remedies.
      a. Sometimes terraces may be needed.

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. The instructor and the students may choose to develop a model of a field which is farmed on the contour. This could be used for illustration purposes in the classroom.

B. A field trip could be taken at the same time you are out to look at terraces. On this particular trip the teacher and students would be interested in observing different pieces of ground being farmed on the contour. You would also want to look at other pieces of ground which aren't being farmed on the contour but should be.

C. A paper could be written by the students after the field trip describing their own observations of contouring. The title of the paper could be: The Advantages or Disadvantages of Contouring?

V. STUDENT REFERENCES:

A. V.A.S. publication, Bulletin 4036.

B. Kohnke, Hebert; Bertrude, Anson R., Soil Conservation, McGraw-Hill Book Company; New York, pages 177-182, Copyright 1959.

VI. Agricultural Resources

C. Soil

UNIT: 4. Conservation Practices

PROBLEM AREA: c. General Information on Terracing

TEACHING PLAN

I. INTRODUCTION: No matter how effective the erosion-control program may be in reducing runoff and soil loss, there will be times during heavy rainstorms when more water will fall than the soil can ab orb. Terraces are primarily used to dispose of excess water and to check scour erosion caused by runoff from cultivated land.

II. STUDENT PERFORMANCE OBJECTIVES:

A. After completing training in terracing, the student will be able to explain the following terms: terrace, graded terrace, level terrace, bench terrace, ridge terrace, channel terrace in class discussion, according to S.C.S. specifications.

B. After completing instruction in terracing the student will be able to describe the uses and advantages of terraces to rural and urban people, following the guidelines set forth by the S.C.S.

C. Upon completion of training in terracing, the student will be able to describe the limitations or disadvantages of terraces, according to S.C.S. specifications.

D. Upon completion of training in terracing, the student will be able to discuss where terraces should be used, according to S.C.S. specifications.

E. Upon completion of this unit, the student will be able to discuss where graded terraces should be used, according to S.C.S. specifications.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. What is a terrace?
1. A terrace is a constructed channel across a field slope built to standard specifications. It may be constructed with a grade or with the channel and ridge level.

B. Two general kinds of terraces
   1. Two kinds are:
      a. Graded terrace
      b. Level terrace
   2. Define level and graded terraces
      a. A graded terrace is one constructed so that it will have a grade, either variable or uniform, leading to a suitable outlet, designed for a safe and non-erosive velocity.
      b. A level terrace is one constructed on a true contour where the channel becomes the impounding reservoir. The water is permitted to seap into the soil.

C. Three general types of terraces
   1. How are they defined?
      a. Bench terraces are used to divide a steep hillside into a series of level or nearly level strips or benches running across the slope.
      b. Ridge terraces are used primarily for water conservation through storage.
      c. Channel terraces are used primarily as a drainage channel to conduct excess rainfall from the fields at non-erosive velocities.

D. Where would these types of terraces be used?
   1. The bench terrace is used in vineyards and orchards planted on excessively steep slopes where frequent cultivation is practiced.
   2. The ridge terrace is best adapted to low slopes and can be used safely only on soils with high infiltration rates and where rainfall intensities are low.
   3. The channel terrace is applicable both as a "cropland terrace" and as a "drainage terrace".

E. Advantages of terraces
   1. Advantages of terraces:
      a. Reduces length of slope
      b. Reduces soil losses
      c. Permits the use of more intensive rotations
      d. Provides larger fields not broken by strips which can be more readily pastured as a unit

F. Would terraces which are properly used and constructed be considered to be an effective conservation practice? Why?
   1. Yes
      a. Terraces, when properly used and constructed, are the most effective supporting conservation practice.

G. Limitations or disadvantages of terraces
   1. Disadvantages of terraces:
      a. They will not replace the need for good rotations in maintaining soil structure and fertility.
      b. They will not replace the need for contouring.
      c. Generally, terraces are not recommended on cropland slopes steeper than 10 percent.

H. Place to use level terraces
   1. Level terraces should not be used except where all of the following conditions exist:
      a. Light textured or medium textured soils of high organic content where a good soil management system is followed so that the surface soil will not seal.
      b. Where there is at least five feet of moderately or moderately rapid, permeable soil with less than 35 percent clay content.

I. Place to use graded terraces
   1. Graded terraces should never be used unless there is a suitable outlet such as:
      a. A natural outlet consisting of a water way or a slope having sufficient cover and adequate width to prevent erosion.
      b. A constructed and vegetated outlet along a fence or at some other suitable location.

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Have the students participate in a class debate. Stress the importance of each student maintaining a calm and collected disposition while debating. Divide the class into two groups. One group is to represent the Soil Conservation Service, in favor of terracing as a conservation practice. The second group is to represent a group of rural and urban people who dislike terracing because they think it is a waste of time and money. Give them one day to prepare. See what happens.

B. Take a field trip to a farm which has implemented good terracing practices. While on the field trip stop by a farm which hasn't used terraces but needs to.

V. STUDENT REFERENCES:

A. V.A.S. publication, Bulletin 4038, on "Terracing"

B. Personnel of the local Soil Conservation Service

VI. Agricultural Resources

C. Soil

UNIT: 4. Conservation Practices

PROBLEM AREA: e. Ponds as a Conservation Practice

TEACHING PLAN

I. INTRODUCTION: Ponds are constructed for various reasons. Most frequently, ponds are constructed for stockwater. In periods of severe drought a pond can save a livestock producer much time and money, if proper planning took place prior to the construction of the pond.

II. STUDENT PERFORMANCE OBJECTIVES:

A. Upon completion of training in ponds, the student will be able to explain the two different types of ponds to agricultural workers, according to the two different types of ponds explained by the S.C.S.

B. Upon completion of training in ponds, the student will be able to explain the uses of ponds to rural and urban people, according to the uses outlined by the Soil Conservationists.

C. Upon completion of training in ponds, the student will be able to describe the factors which need to be considered in selection of a pond site, according to the factors given by the Soil Conservationists.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Two general types of ponds (reservoirs)
   1. One is the retention reservoir in which the primary purpose is the storage of water for future use.
   2. The other is the detention reservoir in which temporary flood storage reduces the peak flow immediately below the pond.

B. Uses of ponds
   1. Recreational use for swimming and fishing is probably the first one which pops into mind
      a. For fishing the pond needs to be an average depth of 6 ft.
      b. For fishing the pond needs at least 25% of the area to be 8 to 10 ft. deep

c. The surface area of the pond should be at least one-quarter of an acre

2. One frequent use already mentioned is the storage of stockwater
   a. It takes 15 gallons of water per day to insure sufficient water for one cow or one horse
   b. It takes 1.5 gallons of water per day to insure sufficient water for one hog
      (1) These things must be considered when planning a pond that will be big enough
      (2) Soil Engineers should be used to help calculate the size of a particular pond
3. Another use is irrigation
4. Water storage is an invaluable asset to fighting fires
   help in fighting fires
   a. If the ponds are planned properly
   b. If the proper advice is obtained from the Soil Engineers
5. Pond storage could be a source of water to fill tanks for herbicide or pesticide application
6. In some cases a pond is used for water detention purposes
   a. A Soil Engineer should be used in planning for such a pond
7. Some farm ponds may be used as a home water supply, however
   a. The dangers of pollution are too great
   b. Proper chlorination and filtration make this use doubtful
   c. Most state health boards strongly oppose this

C. Factors to consider before selecting a pond site
   1. One may want his or her pond near the building site
      a. In order to provide close water for livestock
      b. In order to provide close water for recreational purposes
      c. Can be done with a minimum expense
      d. Water is more readily available for fire fighting
   2. You may decide to locate your pond in a remote place of the farm
      a. Near a permanent pasture for readily available water for a cattle herd
   3. The possibilities of pollution of the water supply should be considered
      a. Drainage from a barn yard should be avoided
      b. Drainage from a neighboring farm is to be avoided
         (1) Source of contagion (bang's disease, cholera, etc.)
      c. A watershed wholly within the farm is to be desired

4. The pond watershed should have a high percent of vegetative cover
   a. In order to keep siltration in an impounded area to a minimum
   b. Should be 50% or more in grass cover
   c. Any rolling areas not in vegetation should be under conservation treatment that will give effective control
5. The size of the watershed should be considered
   a. Consult a Soil Engineer for assistance in this matter
6. Every effort should be made to locate the pond so that prevailing wave action is away from the fill
   a. Again, consult with a Soil Engineer

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. In this particular situation a field trip down to the local Soil Conservation Service would be a good idea. Students could meet with a Soil Engineer for a chat about ponds as well as ask other questions that might arise.

B. An alternative to the field trip would be to invite the Soil Engineer into the classroom as a guest speaker. As to what he should discuss concerning farm ponds is left up to the teacher, the students, and the local Soil Engineer.

V. STUDENT REFERENCES:

A. Soil Conservation Service, U.S.D.A., Engineering Handbook for Soil Conservationists in the Corn Belt; for sale by:
Superintendent of Public Documents
U.S. Government Printing Office
Washington, D.C.

VI. Agricultural Resources

E. Agricultural Resources, Other

UNIT: 1. Introduction and Personal Qualities

PROBLEM AREA: f. Environmental Awareness and Solutions to Environmental Problems

TEACHING PLAN

I. INTRODUCTION: Developing an awareness of our environment is indeed important to every citizen in our state, country and world. Environmental pollution problems cause billions of dollars of destruction to our environment and our resources each year. This slide presentation suggests some of the environmental pollution problems existing today and suggests a few projects which may be undertaken to begin working toward possible solutions to these problems. Every agricultural resources student should be familiar with our environmental pollution problems. Furthermore, they should begin thinking in terms of possible solutions to our problems.

II. STUDENT PERFORMANCE OBJECTIVES:

Upon completion of this slide presentation the students will be able to:

A. Describe at least four environmental pollution problems existing in their community, according to class discussion.

B. Describe at least two projects which can be undertaken to help clean up the environment in their community, according to class discussion.

C. Describe at least four types of conservation practices used to aid in the prevention of soil erosion, according to those practices mentioned in this presentation.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

Note: For this particular teaching plan the instructional content can be found in the narration of the slides.

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Send a group of students to the Touch of Nature Center in Carbondale, Illinois for first hand experience and

study in the environment.

B. Start the FFA on a small community resource development project, such as:
   1. Collecting tin cans for recycling
   2. Clean-up day; picking up trash along highways or on the school grounds
   3. Collecting old newspapers for recycling

V. SPECIAL MATERIALS AND EQUIPMENT:

A. Camera for taking pictures while participating in the community project.

VI. STUDENT REFERENCES:

A. Dasman, Raymond, Environmental Conservation, Third Edition, John Wiley and Sons, Inc., New York, 1972.

B. Swatek, Paul, The User's Guide to the Protection of the Environment, Friends of the Earth/Ballantine Book, New York, 1970.

NARRATION

Slide #1. ENVIRONMENTAL AWARENESS
The purpose of this slide presentation is to identify problem areas of environmental pollution and decide upon alternatives which will aid in the prevention of or elimination of environmental pollution. A further purpose of this slide presentation is to provide viewers with an incentive or desire to take action, action as individuals or a group, to do something about cleaning up the environment. Throughout this slide presentation we should concern ourselves with any additional environmental pollution problems which have been neglected. Then we should concern ourselves with suggesting possible solutions or alternatives to these environmental problems which could possibly aid in the prevention and/or elimination of environmental pollution.

2. One quite interesting way to study and develop an awareness of the environment is to visit the Touch of Nature Center, which is connected with the Carbondale campus of Southern Illinois University. Students develop an awareness of the environment through first hand experiences in outdoor study. For further information about Environmental Workshops, ask your teacher or contact:

Touch of Nature
Southern Illinois University
Carbondale, IL 62901

Now lets get on with the problem at hand: to develop an awareness of environmental problems and to discuss possible solutions to the problems.

3. A quick look downtown, at any time of day, will show the number one polluter of air (one of our most valuable resources). The realistic problem to think about here is cars, cars, cars, and air pollution. Lets venture one step further, and think about measures which could be taken to cut down, prevent, or eliminate air pollution from cars.

4. On the other hand a quick look in rural areas, will point out waste of another valuable resource, soil. The soil which is so badly needed to grow our food, in order that our nation and the world's population can be fed. Poor conservation practices on this strip mined area accounts for severe soil erosion. Can this problem be prevented or eliminated?

5. The next slide illustrates how areas have been strip mined and left. These areas need to be reclaimed to help us in our fight against air, water, and soil erosion polluting factors.

Slide #6. Has the irresponsible man helped matters any? Here is an example of where the irresponsible man has made matters worse, by adding pollution to pollution. Note the trash and litter which is unsightly, unsanitary, and uncalled for. The common term for the person or persons leaving this mess is litterbug!

7. Scouring is a big problem in rural areas today. This slide illustrates how scouring has filled the ditches with top soil. Stop and think a minute. Yes, scouring could take place right in your own front yard if yards aren't seeded properly. Can you think of any rivers which are not polluted today?

8. Road construction accounts for even more severe soil erosion. Is it preventable?

9. The construction of houses is yet another example of where soil erosion takes place. One does not usually think of house or building sites as pollution causing sites. However, we should stop and think about how lawns erode before they are seeded properly. What are some of the other polluting factors we should think about in this illustration? Well, times up, this time I will help you. Not only do we have soil erosion taking place, we also have depletion of our natural resources taking place in the building industry. Depletion of such valuable resources as lumber (from forest), land (which could be used for agricultural or recreational purposes), and many other resources.

10. Due to floods millions of people are driven from their homes each year.

11. Floods, which are caused by heavy rains or by poor flood control measures, make living quarters uncomfortable for our animals. Think of the water pollution and soil erosion.

12. What is wrong with this snakes habitat? My answer would be that it is suffering from:
    a. Lack of vegetation
    b. Man made litter

    What are some other kinds of wildlife that are or may be suffering from lack of vegetation? Answer:
    a. Geese
    b. Deer
    c. Rabbits

    Why are these animals suffering? This would be a good class project to look into. Check it out and find out how you can help.

Narration:

For the purpose of developing a good environmental awareness slide presentation the author could go on and on and still not be done by 1980! Perhaps this is where a little help from you comes into the picture. By taking pictures of environmental pollution in your own community you could identify the problems concerning you. Then different steps could be taken and projects enacted to help you clean it up. What kind of projects? Well, check into the FFA Building Our American Communities Program, see what you come up with. What are some of the steps involved when thinking about cleaning up your community environment? One way is to look at it like this . . .

Slide #13. Community improvement through resource conservation and development.

14. Who starts the action in a community improvement resource development project? The answer to this question is interested and concerned persons in a community.

15. These four slides outline a series of tasks which need
16. to be considered in such a project. They should help
17. you in establishing objectives for your community re-
18. source development project. You should also talk to your local governmental agencies such as the Soil Conservation Service, the Environmental Protection Agency, and the Department of Public Health. Personnel from these agencies will be more than glad to assist you in developing community resource development projects.

Narration:

The question which might be stirring through your mind may read like this, "Why are we confronted with so much controversy from people and industry when it comes to talking about and taking action to clean up the environment?" The answer is simple. To eliminate pollution and reclaim our natural resources is costly!

So what are some of the steps which can be taken? What are some of the things that can be done?

19. These children are participating in a garden center program which has been integrated into their school program. We are looking at a garden center right in the middle of a Chicago public school.

20. This recycling center is part of a community resource development project where . . .

21. this pile of cans is about to be recycled. Are there any other recycling programs you can think of? For

more information about recycling programs write to:

American Forest Institute
1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036

What other programs can we check into?

Slide #22. This slide represents a completed sanitation facility. It probably began as a community resource development project.

And there is even more to check into!

23. Take a gander at conservation!

24. Road construction with little or no conservation practices involved results in eroded banks, soil erosion, and water pollution.

25. One example of conservation of road banks is done by road crews blowing straw along the banks. This act aids in the prevention of erosion, until the banks become seeded with grass or legumes.

26. These hereford cattle are enjoying their lush pastures which have been made possible by good pasture renovation programs and perhaps good flood control measures.

27. Farmers are actively participating in minimum tillage operations.

28. Culverts are placed in drainage ways to prevent erosion from gulley washing.

29. Livestock producers are actively participating in solid waste disposal programs. This is a completed solid waste lagoon.

30. Coral berry along this fence row provides food for wildlife.

31. Ponds serve to aid in the prevention of erosion, irrigation purposes, water for livestock, and as living quarters for wildlife.

32. Pines have been and are being planted on Southern Illinois soils to prevent erosion. What was once barren waste land is now planted in pine forest.

33. Grass waterways aid in preventing soil erosion.

34. Terraces are used by farmers on hilly land to prevent soil erosion.

Slide #35. Contouring is yet another conservation practice to use on hilly farm lands.

36. This picture of barren waste land shows where much work needs to be done, in order to prevent erosion.

37. That same barren waste land could look like this.

38. For Land's Sake!
Keep it Under Cover . . .

39. Our Soil
is
The Foundation of Our Nation

40. Your Tomorrow Depends on the Care of Land Today

41. It's Later Than You Think

42. Some of the pictures were provided compliments of:

Soil Conservation Service
U.S.D.A.
Carbondale, IL 62901

The slide set was made possible by the co-author of the agricultural resources occupation's portion of the Illinois ABAO Curriculum Development Project:

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VI. Agricultural Resources

E. Agricultural Resources, Other

UNIT: 2. Applicable Laws

PROBLEM AREA: a. General Information on Consumer Health Protection Programs

TEACHING PLAN

I. INTRODUCTION: In Illinois, the Office of Consumer Health Protection of the Department of Public Health is responsible for administering laws related to protecting and safeguarding health. This agency helps to save people's lives and money by administering rule-making authority, inspections, construction permits, licenses or registration, engineering reports, and litigation including evidence collection and presentation.

II. STUDENT PERFORMANCE OBJECTIVES:

A. Upon completion of this unit, the student will be able to name the programs of the Consumer Health Protection Agency, according to those programs listed in this unit.

B. Upon completion of this unit, the student will be able to name and describe the five divisions of the Consumer Health Protection Agency, according to those given in this unit.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Programs which are conducted and regulated by the Consumer Health Protection Agency, assure safe and healthful products and conditions for people.
   1. These programs are:
      a. Drugs
      b. Foods
      c. Institutional sanitation
      d. Lead poisoning
      e. Local government sanitation
      f. Mass gatherings
      g. Migrant camps
      h. Milk
      i. Mobile home parks
      j. Nuisances
      k. Pesticides
      l. Plumbing

m. Private sewage
n. Product safety program
o. Radiation
p. Recreational areas
q. Swimming pools
r. Vector control
s. Water wells
t. Youth camps

B. Five divisions of the Consumer Health Protection Agency and a brief description:
1. Division of Food and Drugs - concerned with rules and regulations in relation to drugs (devices and cosmetics), food processing, and retail food sanitation.
2. Division of General Sanitation - concerned with rules and regulations in relation to institutional sanitation, lead poisoning, local government consultation, mass gatherings, migrant camps, mobile home parks, nuisances, pesticides, plumbing, private sewage, product safety, vector control, and water well construction.
3. Division of Milk Control - concerned with rules and regulations in relation to milk control.
4. Division of Radiological Health - concerned with rules and regulations in relation to lasers and ionizing radiation.
5. Division of Swimming Pools and Recreation - concerned with rules and regulations in relation to swimming pools, recreation areas, and youth camps.

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Take a field trip to the Department of Public Health in Springfield for a first hand visit with each of these divisions. If it is not feasible to visit Springfield, then the teacher should take the class for a visit to the county Deparment of Public Health.

B. Contact the personnel department of the Department of Public Health and see if a guest speaker could come to your school. The topic of the speech might be, "A General Overview of the Programs of the Department of Public Health".

V. STUDENT REFERENCES:

A. Illinois Department of Public Health, Programs and Responsibilities; Consumer Health Protection, 16p., 1974.

VI. Agricultural Resources

E. Agricultural Resources, Other

UNIT: 2. Applicable Laws

PROBLEM AREA: b. The Environmental Protection Act, General Provisions

TEACHING PLAN

I. INTRODUCTION: The Environmental Protection Act was written by the General Assembly because guidelines were needed to curtail environmental damage which endangers the public health and welfare. Environmental damage costs the general public millions of dollars each year. Therefore, the purpose of this unit is to introduce you to the act and give you knowledge which will enable you to answer questions about the act.

II. STUDENT PERFORMANCE OBJECTIVES:

A. Upon completion of this unit, the student will be able to explain the purpose of this act, according to the general provisions set forth by the General Assembly.

B. Upon completion of this unit, the student will be able to define seventeen terms as used throughout the act, according to the definitions given by the General Assembly.

C. Upon completion of this unit, the student will be able to describe the framework of the Environmental Protection Agency (i.e. establishment of the agency; director-term and appointment; duties and powers of the agency), according to the framework described by the General Assembly.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Purpose of the Environmental Protection Act
   1. It is the purpose of this act to establish a unified, statewide program supplemented by private remedies to restore, protect, and enhance the quality of the environment.
   2. A further purpose of this act is to assure that adverse effects upon the environment are fully considered and borne by those who cause them.
      a. This means that those who cause them will pay the price of making things right.

B. General areas covered in the act
   1. The general areas covered by this act are: air, water, land pollution and refuse disposal, noise, atomic radiation, regulations, enforcement, variances, permits, judicial review, and penalties
      a. Why are these covered in the act?
         (1) To relieve the burden on enforcement agencies and assure that all interests are given a public hearing
         (2) Also to increase public participation in the task of protecting the environment

C. Definitions which will enable you to continue studying this act
   1. Agency - is the Environmental Protection Agency established by this act
   2. Air pollution - is the presence in the atmosphere of one or more contaminants in sufficient quantities and of such characteristic and duration as to be injurious to human, plant, or animal life, to health or property, or to unreasonably interfere with the enjoyment of life or property
   3. Board - is the Pollution Control Board, established by this act
   4. Contaminant - is any solid, liquid, or gaseous matter, any odor, or any form of energy, from whatever source
   5. Garbage - is waste resulting from the handling, processing, preparation, cooking, and consumption of food, and wastes from the handling, processing, storage, and sale of produce
   6. Institute - is the Illinois Institute for Environmental Quality established by this act
   7. Open burning - is the combustion of any matter in the open or in an open dump
   8. Open dumping - the consolidation of refuse from one or more sources at a central disposal site that does not fulfill the requirements of a sanitary landfill
   9. Person - is any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdiviision, state agency, or any other legal entity, or their legal representative
   10. Public water supply - all mains, pipes, and structures through which water is obtained and distributed to the public
      a. This includes wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, and storage tanks, whether they be state or privately owned
   11. Refuse - is any garbage or other discarded solid materials

12. Sanitary landfill - the disposal of refuse on land without creating nuisances or hazards to public health or safety, by confining the refuse to the smallest practical volume and covering it with a layer of earth at the end of each day
13. Sewage works - individually or collectively those constructions or devices used for collecting, pumping, treating, and disposing of sewage industrial waste or for the other wastes, or for the recovery of by-products from such wastes
14. Water pollution - is such alteration of the physical, thermal, chemical, biological or radioactive properties of any waters of the state
    a. Or such discharge of any contaminant into any waters of the state, as is likely to create a nuisance or render such waters harmful or detrimental to public health
    b. Or as is likely to render such waters harmful or detrimental to animals (domesticated or wildlife)
15. Waters - all accumulations of water
    a. Surface, underground, natural, artificial, public, and private which follows through or borders on this state
16. Municipality - any city, village or incorporated town
17. Trade secret - the whole or any portion of any scientific or technical information, design, process (including a manufacturing process), procedure, formula or improvement, or business plan which is secret in that it has not been published or otherwise become a matter of general public knowledge, and which has competitive value
    a. A trade secret is presumed to be a secret when the owner thereof takes reasonable measures to prevent it from becoming available to persons other than those selected by the owner to have access thereto for limited purposes

D. General framework of the E.P.A. and its authority
1. The agency was established by the executive branch of the state government
2. The agency is under the supervision and direction of a director
    a. The director is appointed by the governor with the advice and consent of the senate
        (1) The term of office of the director shall expire on the third Monday of January in odd numbered years provided that the director holds this office until his successor is appointed
        (2) The director's annual salary is $35,000
        (3) The director's job is to employ and direct personnel and provide laboratory and other facilities, as may be necessary to carry out the purposes of this act

3. The agency has the duty of collecting and disseminating information necessary to carry out the rules and regulations of this act
4. The agency has the authority to inspect actual or potential contaminants or noise sources, of public water supplies, and of refuse disposal sites
5. The agency has the authority to enter at all reasonable times upon any private or public property for the purpose of inspecting and investigating to determine possible violations of the act or of regulations thereunder
6. The agency shall appear before the board in any hearing upon a petition for variance, the denial of a permit, or the validity or effect of a rule or regulation of the board
7. The agency shall have the authority to require the submission of complete plans and specifications from any applicant for a permit required by this act or by regulations thereunder
8. The agency has the authority to prescribe reasonable fees for permits required pursuant to this act
9. The agency has the authority to make recommendations to the board for the adoption of regulations under Title VII of the act
10. The agency's duty is to represent the state of Illinois in any and all matters relating to environmental protection
11. The agency has the authority to accept, receive, and administer on behalf of the state any grants, gifts, loans, or other funds made available to the state from any source for purposes of this act
12. The agency has the authority to plan and work with other local, state, or federal government agencies in their fight against pollution abatement

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Divide the class into two groups. Give half of the class the assignment of describing the purposes of the Environmental Protection Agency, in their own words. Give the other half of the class the assignment of defining the terms discussed in class in their own words. Have each group appoint a chairman to make a report to the class.

V STUDENT REFERENCES:

A. General Assembly, State of Illinois: the Environmental Protection Act, Title 1, Sections 1-4, 1975.

VI. Agricultural Resources

E. Agricultural Resources, Other

UNIT: 2. Applicable Laws

PROBLEM AREA: k. Migrant Labor Camp Law

TEACHING PLAN

I. INTRODUCTION: The Migrant Labor Camp Law was written to aid those persons using migrant labor in setting up legal and sanitary migrant labor camps. A person or corporation operating a migrant labor camp can save much time, money, and legal hassel by setting up a migrant labor camp according to the law.

II. STUDENT PERFORMANCE OBJECTIVES:

A. Upon completion of this unit, the student will be able to define the purpose of the migrant labor camp law, according to the explanation given on page one of the law.

B. Upon completion of this unit, the student will be able to define the following terms: migrant labor camp, migrant worker, agricultural activities, department, director, and person, as used in the law.

C. After completing instruction in Article I, the student will be able to define the definitions given in Article I, according to the definitions found in Article I.

D. After completing instruction in Article II, the student will be able to explain the rules and regulations affecting camp sites, as given in Afticle II.

E. Upon completion of this unit, the student will be able to explain the rules and regulations concerning housing of migrant labor camps, as explained in Article III.

III. OUTLINE OF INSTRUCTIONAL CONTENT:

A. Purpose of the migrant labor camp law
1. The purpose of the law is to provide rules and regulations for the licensing and regulation of migrant labor camps

a. In order to have humane run camps
b. In order to have sanitary camps

B. How are the terms migrant labor camp, migrant worker, agricultural activities, department, director, and person defined as used in this law?
1. Migrant labor camp - one or more buildings, structures, tents, trailers, or vehicles or any combination of these together with the land area involved, operated or maintained as living quarters for ten or more families who are engaged in agricultural activities.
2. Migrant worker - any person who moves seasonally from one place to another, within or without the state, for the purpose of employment in agricultural activities.
3. Agricultural activities - includes planting, raising, or harvesting of any agricultural or horticultural commodities, including the related handling, packing, and processing upon the farm where produced or at the point of first processing.
4. Department - means the Department of Public Health of the State of Illinois.
5. Director - means the Director of the Department of Public Health.
6. Person - means any person, partnership, firm, association or corporation.

C. Definitions in Article I (these definitions are given according to how they are used in the Migrant Labor Camp Law)
1. Plumbing - is the practice, materials and fixtures used in the installation, maintenance, extension, and alteration of all piping, fixtures, and appliances.
2. Septic tank - a watertight receptacle which receives the discharge of a sewerage system, and is designed and constructed so as to separate solids from liquids, digest organic matter through a period of holding, and allow the liquid to discharge into the soil outside of the tank through a system of open-joint or perforated piping, or disposal pits.
3. Sewage - is any liquid waste containing animal or vegetable matter in suspension or solution, including shower-bath, laundry, and kitchen waste water and soapy water.
4. Mobile home parks - structures designed for permanent habitation and so constructed as to permit its transport on wheels, temporarily or permanently attached to its frame, from the place of its construction to the location or subsequent locations, at which it is intended to be a permanent habitation

and designed to permit occupancy of one or more persons.

D. Rules and Regulations concerning camp sites
   1. Camp sites shall be well drained and free from standing water
      a. Natural sink holes, ponds, pools, or other surface collectors of water within 200 ft. of the camp buildings shall be either drained, filled, or treated to prevent mosquito breeding.
   2. No camp shall be located in an area subject to flooding.

E. Rules and Regulations effecting housing
   1. Separate quarters shall be provided for each sex except in the case of family living quarters
   2. Shelters in all camps shall be structurally sound and shall provide protection to the occupants
      a. Walls are to be tight and durable
      b. Floors must be constructed out of concrete, or wood
      c. Quarters must be clean
   3. Tents are to be used for emergency purposes only
      a. After receiving approval from the department
   4. Any room provided for human occupancy shall be provided with artificial lighting equal to or greater than one 75-watt bulb per 100 square feet of floor area
      a. Electrical wiring must meet the minimum requirements of the National Electric Code
   5. Shelters or facilities shall be screened during fly season with no less than 16-meshes-per sq. inch screens
      a. Door openings shall be screened and self-closing

IV. POSSIBLE STUDENT LEARNING ACTIVITIES:

A. Have the class discuss the importance of the Migrant Labor Camp Law, in relation to it being the primary cause of operators providing humane and sanitary housing to migrant workers. Relate to the class any personal experiences you might have had when migrant labor camps were unfit for habiation.

V. STUDENT REFERENCES:

A. State of Illinois, Department of Public Health, Consumer Health Protection, Migrant Labor Camp Law and Rules and Regulations, pp. 1-3, 1972.

REFERENCES

Specific References

VI. Agricultural Resources

A. Forest

1. Carter, J. Cedric. Illinois Trees: Selection, Planting, and Care, Circular 51, Illinois National History Survey, Urbana, Illinois, 1966, 123 pages.

2. Hilterbrand, L. R. Introduction to Forestry, Lafayette, Indiana, Balt Publishing Company, 1967.

3. Managing the Family Forest, Bulleting No. F2187, U.S. Department of Agriculture, U.S. Government Printing Office, 1962, 61 pages.

4. Viertil, Arthur T. Trees, Shrubs, and Vines, Syracuse University, New York, 1961.

5. Allen, Shirley W. and Sharpe, Grant W. An Introduction to American Forestry, New York, New York, McGraw-Hill Book Company, 1966, 466 pages.

6. Anderson, R. E. Forest and Shade Tree Etomology, New York, New York, Johan Wiley and Sons, Inc., 1950.

7. Forest Conservation Teachers Manual, Illinois Resource Management, Department of Conservation, Springfield, Illinois, 83 pages.

B. Recreation

8. Shoman, Joseph J. Manual of Outdoor Interpretation, National Audubon Society, Inc. New York, 1968, 104 pages.

9. Tilden, Freeman. Interpreting Our Heritage, University of North Carolina, Chapel Hill, 1967.

10. Smith, Clodus R. Rural Recreation for Profit, Danville, Illinois, The Interstate Printers and Publishers, Inc., 1968.

11. Doell, Charles E. and Twardzik, Louis L. Elements of Park and Recreation Administration, Burgess Publishing Company, Minneapolis, Minnesota, 1973, 332 pages.

12. Dupage, Wilbur F. and Ragain, Dale P. A Second Look at the Heavy Half of the Camping Market, U.S.D.A. Forest Service Research Paper NE-196, Upper Darvy, Pennsylvania, 1971, 9 pages.

13. Cramond, Michael. Hunting and Fishing in North America, University of Oklahoma Press, Norman, Oklahoma, 1953, 394 pages.

14. Ormond, Clyde. Hunting, Harper and Roe, New York, 1972, 432 pages.

15. Hewes, Bob. Ducks at a Distance, U.S. Department of Interior, Superintendent of Documents, U.S. Government Printing Office, Washington.

16. Swan, Malcohm O. Tips and Tricks in Outdoor Education, Danville, Illinois, The Interstate Printers and Publishers, Inc., 1970.

17. The Why and What of Bookkeeping, Current Edition, Washington, D.C., Small Business Administration, U.S. Department of Labor.

18. Rules and Regulations for Recreational Areas, Department of Public Health, Bureau of Environmental Health, Division of Swimming Pools and Recreation, Springfield, Illinois, 1972.

19. Turf Management, Columbus, Ohio, Ohio Agricultural Education Curriculum Materials Service, The Ohio State University, 1973, 109 pages.

20. Turfgrass Maintenance and Establishment-A Teacher's Manual, University Park, Pennsylvania, Department of Agricultural Education, The Pennsylvania State University, 1968, 160 pages.

21. Small Engines, Volume I, Athens, Georgia, Engineering Center, American Association of Vocational Instructional Materials, 1968, 150 pages.

22. Operating Farm Tractors and Machinery, Efficiently, Safely, Ames, Iowa, Publications Distribution Center, Iowa State University of Science and Technology, 1969, 81 pages.

23. Manual of Water Utility Operations, The Texas Water Utilities Association, Lancaster Press, Inc., Lancaster, Pennsylvania, 1969.

24. Standard Methods for the Examination of Water and Waste Water, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1971, 13th Edition, Washington, American Public Health Assoc.

C. Soil

25. Job descriptions in this program planning guide and local Soil Conservation Service.

26. Why Young People Fail to Get and Hold Jobs, published by the New York State Department of Labor.

27. Blackledge, Walter L., Blackledge, Ethel H., and Keily, Helen J. The Job You Want--How to Get It, South-Western Publishing Company, 1975.

28. Kushner, John A., and Keiley, Helen J. How to Find and Apply for a Job, South-Western Publishing Company, 1975.

29. Refer to the Agricultural Production Program Planning Guide for information on the operation of tillage, planting and harvesting equipment.

30. National Academy of Sciences, Weed Control, Washington, D.C., 1971. Can be ordered from:
    Printing and Publishing Office
    National Academy of Sciences
    2101 Constitution Avenue
    Washington, D.C. 20418

31. Agricultural Production Program Planning Guide in the plant science cluster.

32. Illinois Agronomy Handbook, 1975. Can be ordered from;
    Cooperative Extension Service
    University of Illinois
    Urbana, Champaign

33. Martin and Leonard. Principles of Field Crop Production, Macmillan, Third edition, new.

34. Local Soil Conservation Service.

35. Instructions are sent with the surveying kit on the operation of the surveying instruments. The kit can be ordered from:
    Vocational Agriculture Service
    434 Mumford Hall
    University of Illinois
    Urbana, Illinois 61801

36. See pages 1-2 of the Farm Surveying Unit, Vocational Agriculture Services 3010.

37. See pages 2-3 of the Farm Surveying Unit, Vocational Agriculture Services 3010.

38. See pages 10-12 of the Farm Surveying Unit, Vocational Agriculture Services 3010.

39. See pages 12-14 of the Farm Surveying Unit, Vocational Agriculture Services, 3010.

40. Griffith, Charles J.; Landin, Edward; and Jostard, Karen. The New Conservation, Izaak Walton League of America, Arlington, Virginia, 1971.

41. Dasman, Raymond. Environmental Conservation, John Wiley and Sons, Inc. New York, 1972.

42. Kohnke, Hehnut; and Bertrude, Anson R. Soil Conservation, McGraw-Hill Book Company, New York, Pages 177-182, 1959.

43. Soil Conservation Service, U.S.D.A. Engineering Handbook for Soil Conservationists in the Corn Belt, for sale by:
Superintendent of Public Documents
U.S. Government Printing Office
Washington, D.C.

44. Local Soil Conservation Service.

D. Wildlife

45. Collins, Henry Hill, Jr. Complete Field Guide to American Wildlife, New York, New York, Harper and Roe Publishers, Inc., 1969, 683 pages.

46. Swartz, W. Charles and Elizabeth R. The Wild Mammals of Missouri, University of Missouri Press and Missouri Conservation Commission, Jefferson City, Missouri, 1959, 341 pages.

47. Burger, George B. Practical Wildlife Management, New York, New York, Winchester Press, 1972, 218 pages.

48. Making Land Produce Useful Wildlife, Farmers Bulletin No. 2035, U.S. Department of Agriculture, Superintendent of Documents, Washington, D.C., 1969, 29 pages.

49. Elman, Robert. The Hunter's Field Guide, New York, Alfred A. Knopf, 1974.

50. A Manual of Wildlife Conservation, Washington, D.C., The Wildlife Society, 1971, 106 pages.

51. State of Illinois, Hunting and Fishing Regulations, Annual Publication, Springfield, Department of Conservation.

52. State of Illinois, Boating Regulations, Springfield, Department of Conservation.

E. Agricultural Resources, Other

53. "Planning an Awareness Environment," filmstrip and technique packet, can be ordered from:
    Minnesota Environmental Sciences Foundation, Inc.
    5400 Glenwood Avenue
    Minnesota 55422
    An illustrated guide to promote creative outdoor study. Includes two filmstrip series. Also includes a technique packet: a packet of ten "how to do it" projects on individual cards.

54. "Environmental Issues Series," can be ordered from:
    Minnesota Environmental Sciences Foundation
    5400 Glenwood Avenue
    Minneapolis, Minnesota 55422
    Sample issues are:
    a. The Auto, Environment and Values
    b. Integrating Man and Land
    c. Population Perspectives
    d. You've Got Alot of Energy Today

55. Environmental Awareness slide set can be ordered from:
    Dr. Thomas R. Stitt
    Department of Agriculture Industries
    School of Agriculture
    Carbondale, Illinois 62901

56. Job descriptions in this program planning guide.

57. "Careers in Natural Resources Management," filmstrip with tape cassette, can be ordered from:
    Vocational Education Productions
    California State
    Polytechnic College
    San Luis Obispo, California 93401

58. Illinois Department of Public Health, Programs and Responsibilities; Consumer Health Protection, 16 p., 1974, can be ordered from:
    Illinois Department of Public Health
    535 West Jefferson Street
    Springfield, Illinois 62706

59. State of Illinois: The Environmental Protection Act, can be ordered from:
    Illinois Environmental Protection Agency
    2200 Churchill Road
    Springfield, Illinois 62706

60. The Illinois Food, Drug, and Cosmetic Act; the Food in Salvage Warehouses Law; the Sale of Bread Law; the Fair Packaging and Labeling Act; the Sanitary Inspection Law can be ordered from:
    Illinois Department of Public Health
    Division of Food and Drugs
    535 West Jefferson
    Springfield, Illinois 62706

61. The Private Sewage Disposal Licensing Act and Code; the Plumbing Licensing Law; the Mass Gathering Law; the Migrant Labor Camp Law; the Rules and Regulations for Sanitary Practice of Drinking Water; the Water Well Pump Installation Law; the Lead Poisoning Prevention Act can be ordered from:
    Illinois Department of Public Health
    Division of General Sanitation
    535 West Jefferson
    Springfield, Illinois 62706

62. On the job training.

63. On the job training and speakers from the Department of Public Health.

64. Class demonstration.

65. Lab Technician as a speaker.

Selected References for More Information

A. Agriculture Education Section, Division of Vocational Education in Phoenix; department of Agricultural Education, University of Arizona in Tucson, Specialized Curriculum in Agricultural and Renewable Resources for Arizona, 1972. Can be ordered from:
Floyd G. McCormick, Head
Department of Agricultural Education
University of Arizona
Tucson, Arizona

B. Curriculum and Instructional Materials Center in Oklahoma, Oklahoma Vocational Agriculture Education; Basic Core Curriculums for Years I, II, III, and IV, 1971. Can be ordered from:
State Department of Vocational and Technical Education
Stillwater, Oklahoma 74074

C. Iowa State University of Science and Technology, Department of Agricultural Education; Department of Public Instruction Career Education Division in Iowa, Curriculum Guide Agriculture Resources and Conservation, 1973.

D. Hilterbrand, L. R. Bibliography of Conservation, Forestry, and Wildlife References and Texts, 1971. Can be ordered from:
L. R. Hilterbrand, Chairman
Division of Agriculture
Shawnee College
Shawnee College Road
Ullin, Illinois 62992

E. Tullock, Rodney; and Carpenter, Bruce. Exploring Careers in Natural Resources and Environmental Occupations; A Guide for Teachers, Curriculum Development Center in Kentucky, 1973. Can be ordered from:
Curriculum Development Center
Vocational Education
University of Kentucky
Lexington, Kentucky 40506

F. Bohning, Kermit, B.; and Stitt, Thomas R. Teaching Materials for Environmental Related Courses in Agriculture Occupations Programs, 1973. Can be ordered from:
Dr. Thomas R. Stitt
Department of Agriculture Industries
Southern Illinois University
Carbondale, Illinois 62901

G. Ohio Career Education and Curriculum Management Laboratory in Agricultural Education, Career Preparation in Environmental Protection; A Curriculum Guide for High School Vocational Agriculture, 1974. Can be ordered from:
U.S. Department of Health, Education and Welfare
Office of Education
Washington, D.C.

H. Stitt, Thomas R. An Annotated Bibliography for Environmental Educators, 1973. Can be ordered from:
Dr. Thomas R. Stitt
Department of Agricultural Industries
School of Agriculture
Southern Illinois University
Carbondale, Illinois 62901

I. Stitt, Thomas R. An Environmental Glossary for Environmental Educators, 1973. Can be ordered from:
Dr. Thomas R. Stitt
Department of Agricultural Industries
School of Agriculture
Southern Illinois University
Carbondale, Illinois 62901

J. Environmental Films Available on Free Loan:
National Audiovisual Center
Distribution Branch
Washington, D.C. 20409

K. Ecology Films are Available on a Rental Basis:
Perennial Education, Inc.
P.O. Box 236
1825 Willow Road
Northfield, Illinois 60093

L. A Film and Price List can be ordered from:
Conservation Foundation
1250 Connecticut Avenue, N.W.
Washington, D.C. 20036

M. A Brochure of Available Films and Teaching Aids, can be ordered from:
Division of Conservation Education
Office of the Supt. of Public Instruction
325 South Fifth
Springfield, Illinois 62706

N. A List of Available Films on Conservation and the Environment can be ordered from:
McGraw Hill
Contemporary Film Rental Offices
828 Cluster Ave.
Evanston, Illinois 60202

SCHOOL FACILITIES, EQUIPMENT AND SUPPLIES

Item	Source
Outdoor Laboratory	Plans for developing an outdoor laboratory are available from: U.S.D.A., Soil Conservation Service, Midwest Regional Technical Service Center, 134 South 12th Street, Lincoln, Nebraska 68508
Ideas for Community Development Programs	This can be obtained by writing for a booklet entitled Building Our American Communities Program: U.S. Office of Education, Department of Health, Education, and Welfare, Washington, D.C.
Surveying Equipment	Vocational Agriculture Service University of Illinois 434 Mumford Hall Urbana, Illinois 61801
Land Use Planning Information	Local Soil Conservation Service
Identification of Common Trees and Plants in IL	Biology teacher
Applicable Laws Dealing with Pollution Abatement	Illinois Department of Public Health, Illinois Environmental Protection Agency.
Camera	School, or have FFA purchase one.

AUDIO VISUAL SOURCES AND MATERIALS

Source: Vocational Agriculture Service, 434 Mumford Hall, University of Illinois, Urbana, Illinois.

VI. Agricultural Resources

C. Soil

Slidefilms

1 av. Applying for a Job, VAS 390.
2 av. Using the Steel Tape in Surveying, VAS 436.
3 av. Using the Level to Stake Out a Building, VAS 439.
4 av. Using the Level in Farm Surveying, VAS 438.
5 av. Recording Field Notes in Surveying, VAS 437.

Units

6 av. Applying for a Job, VAS 6001.
7 av. Field Arrangement Principles, VAS 2004a.
8 av. Farm Surveying, VAS 3010.
9 av. Contouring, VAS 4036.
10 av. Terracing, VAS 4038.
11 av. Grass Waterways, VAS 4021.

E. Agricultural Resources, Other

Slidefilms

12 av. Agriculture and the Environment, VAS 1101.
13 av. Agriculture and the Ecosystem, VAS 1104.

Units

14 av. Collecting or Preparing Soil Samples for Testing, VAS 4001.

Additional Audio Visual Sources and Materials

The following films are available from:

Film Loan Service
Division of Education
Department of Conservation
113 State Office Building
Springfield, Illinois 62706

Forestry Cluster

1. Trees - How We Identify Them
2. Forest Grows
3. Grazing In the Forest
4. Forest and Conservation

Recreation Cluster

1. Gunning the Flyways
2. Fly Fishing Made Easy
3. Islands of Green
4. Bay At the Moon
5. Bobwhite Through the Year
6. Calling All Ducks
7. Cottontail
8. Honkers In Illinois
9. Illinois Fin Fun
10. Mourning Dove Story
11. This Is the Mallard
12. State Parks and Memorials

Soil Cluster

1. Better Pond Fishing
2. Cry of the Marsh
3. Uses of Forest

Wildlife Cluster

1. Beaver Valley
2. Headwaters
3. Snakes: Friends or Foes
4. Sunfish
5. Sunrise Serenade
6. Waterfowl in Action

Source: Vocational Agriculture Service, 434 Mumford Hall, University of Illinois, Urbana, Illinois.

TRANSPARENCIES

Forestry

1. Farmstead Windbreaks
2. Planting and Care of Farm Forests
3. Selecting Trees for Home Planting
4. Transplanting Shade Trees
5. Pruning Shade Trees
6. Fertilizing and Watering Shade Trees

Recreation

1. Grounds Maintenance and Construction
2. Electric Motors for Farm Use
3. Safety Materials
4. Concrete Masonary
5. Engine Analysis Visual
6. Small Engine Visual

Soil

1. Plant Identification
2. Plant Propagation
3. Pruning and Training Plants
4. Soil Science Transparencies
5. Weed Control Transparencies
6. Weed Identification

FILMS

Wildlife

1. Attitudes
2. Park Police Driver Training

TEACHERS COMPETENCIES AND TRAINING AVAILABLE

A. Teacher will have to be competent in the use of the Vocational Agriculture Service Soil Surveying Kit.

1. Short courses are given periodically by the Vocational Agriculture Service--University of Illinois.
   a. Contact the following address for further information:

      Vocational Agriculture Service
      College of Agriculture
      University of Illinois
      434 Mumford Hall
      Urbana, IL 61801

2. Courses in Surveying are taught by the following schools:

   a. Department of Agriculture Industries
      School of Agriculture
      Southern Illinois University
      Carbondale, IL 62901

   b. College of Agriculture
      University of Illinois
      Urbana, IL 61801

B. Teacher will have to become competent in the concept of "What Environmental Awareness Is".

1. Teacher workshops in environmental awareness are held periodically at the Touch of Nature Center at Carbondale.
   a. Contact the following address for further information:

      Touch of Nature
      Southern Illinois University
      Carbondale, IL 62901

2. Environmental courses are taught by the Plant and Soil Science Department at Southern Illinois University at Carbondale.
   a. For further information on these courses and to find out when they are offered, contact the following address:

Plant and Soil Science Department
School of Agriculture
Carbondale, IL 62901
Attention: Environmental Educators

C. Teacher will need to become competent in the use of the Program Planning Guide in Agricultural Resources.

1. Dr. Thomas R. Stitt, at SIU, is presently working (Spring 1975) on a request for funding proposal to set up workshops to train teachers in the use of the ABAO Program Planning Guides.
   a. For further information on these workshops contact:

      Dr. Thomas R. Stitt
      Department of Agriculture Industries
      School of Agriculture
      Carbondale, Illinois 62901

D. Teacher will need to become competent in conservation of our natural resources.

1. This can probably be best approached by working closely with the following resource people:
   a. U.S. Soil Conservation Service - local personnel
   b. State Game Commission
   c. U.S. Forest Service
   d. Bureau of Land Management County Agent
   e. U.S. Park Service
   f. County Extension Service

2. Courses are also offered at the university level which deal with conservation.
   a. For further information on classes dealing with conservation contact the following addresses:

      (1) Plant and Soil Science Department
      School of Agriculture
      Southern Illinois University
      Carbondale, Illinois 62901

      (2) College of Agriculture
      University of Illinois
      Urbana, Illinois 61801
      Attention: Conservation Educators

E. Teacher will need to become competent in teaching the applicable laws which the environmental health inspectors are confronted with.

1. This can probably be best achieved by contacting the State of Illinois Department of Public Health.
   a. Request that all the applicable laws which Environmental Health Inspectors I and II have to know be sent to you.

   b. The address to write to is:
      State of Illinois Department of Public Health
      535 West Jefferson St.
      Springfield, Illinois 62706

F. Teacher will need to become competent in teaching the Environmental Protection Act.

   1. This can probably be best achieved by contacting the State of Illinois Environmental Protection Agency.
      a. Request that you be sent the current copy of the Environmental Protection Act.

G. Teacher will need to become competent in reading conservation aerial maps.

   1. This can be best achieved by contacting your local Soil Conservation Service and asking for assistance.

H. A list of publications which the teachers may want to read on environmental awareness, can be obtained from:

   1. Touch of Nature
      Southern Illinois University
      Carbondale, Illinois 62901

I. Teacher will need to become competent in planning agricultural resources programs. Information for forest, recreation, soil, wildlife, parks, etc. can be obtained from:

   1. Illinois Department of Conservation
      Information/Education Division
      605 State Office Building
      Springfield, Illinois 62706